FOR.A®
INNOVATIONS IN VIDEO
and AUDIO TECHNOLOGY

OPERATION MANUAL

FVW-500HS

Video Writer

S/N 13090081 - Higher

3rd Edition - Rev.1

(Version 2.0.0.1)

FOR-A COMPANY LIMITED

Edition / Version History

Edition	Revision	Version	Date	Description	Where
1	-	1.0-	2008/12/17		
2		1.0.1-	2009/08/19	-Note on synchronization -GPI input/output supported -720p supported -Safety area marker range for 720p added -TV Standard and Genlock selection -System Adjust changed -Button order changed with keyboard and mouse -Video Writer GUI changed	Sec.2-2, 3-1-1 Sec.2-4, 4-2-7, 8-1 Sec.3-4, 8-1 Sec.5-4-1 Sec.3-4, 5-3-8 Sec.3-4 Sec.4-2-6, 5-2-4
2	1	1.0.1-	2010/03/01	-A section for BIOS reset added -Important notice corrected -Specifications for video output, temperature and humid corrected	Appendix Sec.3-2 Sec.8-1
3		2.0.0	2010/05/09	-System setting modified -Resize button added -Still Capture and BG Capture buttons added -Right-double-click function for showing and hiding buttons on the screen added -Page function added -Multi Pointed Line tool added -Polygon tool added -Arrow tool added -Text tool added -Remove BG button added -Video in /out settings changed -Safety area marker changed -Handle setting added -Other settings added	Sec.3-4 Sec.4-2-5 Sec.4-2-6 Sec.4-2-12 Sec.4-2-13, 5-3-5 Sec.5-1-8 Sec.5-1-9 Sec.5-1-10 Sec.5-1-11 Sec.5-2-6 Sec.5-3-1 Sec.5-3-2 Sec.5-3-3 Sec.5-3-4-6, 5-3-4-7, 5-3-4-8
3	1	2.0.0.1	2011/08/30	-An audio connector added	Sec. 2-2, 8-1, 8-2

Precautions

Important Safety Warnings

[Power]

Caution	Operate unit **only** on the specified supply voltage.
	Disconnect power cord by connector only. **Do not** pull on cable portion.
Stop	**Do not** place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.

[Grounding]

Caution	**Ensure** unit is properly grounded at all times to prevent electrical shock hazard.
Hazard	**Do not** ground the unit to gas lines, units, or fixtures of an explosive or dangerous nature.
Caution	**Ensure** power cord is firmly plugged into AC outlet.

[Operation]

Hazard	**Do not** operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
Hazard	**Do not** allow liquids, metal pieces, or other foreign materials to enter the unit. Doing so could result in fire, other hazards, or unit malfunction.
	If foreign material does enter the unit, turn power off and disconnect power cord **immediately.** Remove material and contact authorized service representative if damage has occurred.

[Transportation]

Caution	**Handle** with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.

[Circuitry Access]

	Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
Stop	**Do not** touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.
Hazard	Unit **should not** be operated or stored with cover, panels, and / or casing removed. Operating unit with circuitry exposed could result in electric shock / fire hazards or unit malfunction.

[Potential Hazards]

Caution	If abnormal smells or noises are noticed coming from the unit, turn power off immediately and disconnect power cord to avoid potentially hazardous conditions. If problems similar to above occur, contact authorized service representative **before** attempting to again operate unit.

[Rack Mount Brackets, Ground Terminal, and Rubber Feet]

Caution	To rack mount or ground the unit, or to install rubber feet, **do not** use screws or materials other than those supplied. Otherwise, it may cause damage to the internal circuits or components of the unit. If you remove the rubber feet attached on the unit, **do not** reinsert the screws securing the rubber feet.

[Consumables]

Caution	The consumables used in unit must be replaced periodically. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, they should be replaced at an early date. For details on replacing the consumables, contact your dealer.

Software License Agreement

This Software License Agreement is a legally binding agreement between you (“User”) and FOR-A Company Limited (“Company”). The software, user manual and all other associated documentation (collectively, “Product”) are licensed, not sold, to the User. By installing and using the software, or by using a product of the Company in which the software is installed, User agrees to be bound by all terms and conditions of this agreement, as set forth below.

1. License Grant

   a. The Company grants User the license to use the Product in the manner specified in the user manual and other associated documentation. User may not use the Product in any manner other than specified.

   b. The Company only grants User the license to personally use the Product, and does not allow User to transfer the license to a third person or to enable a third person to use the Product by any other method.

   c. In principle, the software may only be used on a single computer or device.

   d. While the software may include various programs, they may not be unbundled and used as standalone programs.

2. Restrictions on Distribution, Duplication, Lease and Transfer

   User may not, without the Company’s prior permission, distribute via communication lines, or lease or transfer electronic copies of the Product, in whole or in part, nor attempt to do so.

3. Limitations of Guaranty

   The Company and its program licensors disclaim all legal warranties, express or implied, with respect to the Product. User must use the Product at own risk. In no event shall the Company and its program licensors be liable for any damage resulting from User’s use or inability to use the Product.

4. Provision of Upgrades and Updates

   Whenever the software is upgraded or updated, User may use the new version of the software by paying the amount separately specified by the Company. After upgrading the software, User may not use the earlier version without the Company’s prior permission.

5. Term of Validity of this Agreement

   This agreement shall be effective for a period of one year from the day User begins using the software. The same conditions of the agreement shall be extended for further one-year terms unless User or the Company expresses, at least one month prior to expiration of the agreement, the intent not to renew the agreement.

6. Termination of the Agreement

   a. The Company reserves the right to immediately terminate this agreement if User corresponds to either of the following circumstances.

      (1) User violates any terms of this agreement

      (2) User is unable or refuses to make the required payment

   b. User may terminate this agreement by written notice to the Company in the following circumstances, but may not seek a refund of the amount that User has already paid to the Company.

      (1) User waives the license

      (2) User destroys or loses the software package and prevents the Company from being able to confirm its existence

   c. After termination of this agreement, User may not use the Product in any way or form.

7. Ownership

   The Company and its program licensors retain all rights, including copyright and intellectual property rights, to the Product. User may not modify any program included in this software, nor disassemble, decompile, or reverse-engineer a program to analyze its source code.

8. Others

   This agreement will be governed by and construed in accordance with copyright laws and treaties in Japan and by laws and international treaties relating to intangible property rights. User must comply with all copyright laws and applicable laws and regulations when using the Product.

9. Jurisdiction

   Any dispute relating to the Agreement shall be subject to the jurisdiction of the Tokyo District Court.

10. Support

    If the Company discovers a flaw in the software or revises a program within one year after User receives the software, the Company will provide information regarding the flaw or revision or a revised program to User free of cost.

* **Microsoft Windows XP Embedded Operating System** is a registered trademark of Microsoft Corporation.

This application is using Open Source Computer Vision Library that is under the BDL license.

IMPORTANT: READ BEFORE DOWNLOADING, COPYING, INSTALLING OR USING.

By downloading, copying, installing or using the software you agree to this license.
If you do not agree to this license, do not download, install,
copy or use the software.

Intel License Agreement
For Open Source Computer Vision Library

Copyright (C) 2000-2006, Intel Corporation, all rights reserved.
Third party copyrights are property of their respective owners.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

* Redistribution's of source code must retain the above copyright notice,
  this list of conditions and the following disclaimer.

* Redistribution's in binary form must reproduce the above copyright notice,
  this list of conditions and the following disclaimer in the documentation
  and/or other materials provided with the distribution.

* The name of Intel Corporation may not be used to endorse or promote products
  derived from this software without specific prior written permission.

This software is provided by the copyright holders and contributors "as is" and
any express or implied warranties, including, but not limited to, the implied
warranties of merchantability and fitness for a particular purpose are disclaimed.
In no event shall the Intel Corporation or contributors be liable for any direct,
indirect, incidental, special, exemplary, or consequential damages
(including, but not limited to, procurement of substitute goods or services;
loss of use, data, or profits; or business interruption) however caused
and on any theory of liability, whether in contract, strict liability,
or tort (including negligence or otherwise) arising in any way out of
the use of this software, even if advised of the possibility of such damage.

* All other trademarks and copyrights are property of their respective owners. All rights reserved.

Upon Receipt

Unpacking

FVW-500HS units and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings.

Check your received items against the packing lists below.

ITEM	QTY	REMARKS
FVW-500HS	1	
AC Cord	1 set	One AC cord, and one AC cord retaining clip
Rack Mount Brackets	1 set	EIA standard type
Rubber feet	1 set	
Operation Manual	1	

IMPORTANT
Wait **at least 10 seconds** before turning back on the FVW-500HS after powering off.

Check

Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

Rack Mounting

The FVW-500HS can be mounted to EIA standard rack units. When rack mounting a unit, remove the rubber feet and use the accessory rack mount brackets (rack ears).

Table of Contents

1. Prior to Starting 1
   1-1. Welcome 1
   1-2. FVW-500HS Overview 1
   1-3. Peripherals Needed for the System 1

2. Panel Descriptions 2
   2-1. Front Panel 2
   2-2. Rear Panel 3
   2-3. Serial Interface 4
   2-4. Parallel Interface 4

3. Setup 7
   3-1. Connection 7
      3-1-1. Connection Example 7
      3-1-2. How to Display Images 8
   3-2. Powering On 9
   3-3. Installing Touch Panel Driver 9
   3-4. System Setting 11
      3-4-1. Selecting Video Format 12
      3-4-2. Selecting Reference Signal 12
      3-4-3. Selecting Genlock Signal 12
      3-4-4. Adjusting Genlock Phases 13
      3-4-5. Checking Lock Status 13

4. Using Video Writer 14
   4-1. Starting and Exiting Video Writer 14
      4-1-1. Starting Video Writer 14
      4-1-2. Exiting Video Writer 14
   4-2. Basic Operations 15
      4-2-1. Main Window 15
      4-2-2. Creating an Object 17
      4-2-3. Erasing an Object 19
      4-2-4. Moving an Object 19
      4-2-5. Resizing an Object 20
      4-2-6. Capturing a Still Image from Video Input 20
      4-2-7. Modifying Properties 20
      4-2-8. Selecting a Background Image 21
      4-2-9. DSK On/Off 21
      4-2-10. Playing Movies 22
      4-2-11. Arranging Layer Order 23
      4-2-12. Showing and Hiding Function Buttons and Setup Buttons 24
      4-2-13. Moving Between Pages 24

5. Setting Up Video Writer 25
   5-1. Properties 26
      5-1-1. User Interfaces Used in Properties Dialog Boxes 26
      5-1-2. Line Properties 27
      5-1-3. Spotlight Properties 28

5-1-4. Circle Properties 29
5-1-5. Numbering Properties 30
5-1-6. Object Properties 31
5-1-7. Movie Properties 32
5-1-8. Multi Pointed Line 33
5-1-9. Polygon 34
5-1-10. Arrow 35
5-1-11. Text 36
5-1-12. Color Setting 37
5-2. Menu 38
5-2-1. Adding a Draw Tool 39
5-2-2. Editing a Draw Tool 39
5-2-3. Removing a Draw Tool 39
5-2-4. Changing Display Order of Draw Tools 40
5-2-5. Adding a Background Button 40
5-2-6. Removing a Background Button 41
5-2-7. Saving a Video Writer File 41
5-2-8. Loading a Video Writer File 41
5-2-9. Custom Icon Settings 42
5-2-10. Calibration Settings 43
5-3. Option 44
5-3-1. Video In / Video Out Settings 45
5-3-2. Showing Safety Area Markers 47
5-3-3. Handle Settings 49
5-3-4. Other Settings 50
5-3-4-1. Showing Custom Icons 50
5-3-4-2. Undo Setting 51
5-3-4-3. Dialog Mode Setting 51
5-3-4-4. Mode for When Clicking an Object with a Draw Tool 52
5-3-4-5. Invalid Area Setting 52
5-3-4-6. Keep Aspect 52
5-3-4-7. Context Menu 53
5-3-4-8. Screen Keyboard 53
5-3-4-9. Language Setting 53
5-3-5. Page 54
6. Resetting to Defaults 55
7. File Conversion Software (TGA/PNG to AVI) 56
7-1. File Conversion 56
7-2. Messages 57
8. Specifications and Dimensions 58
8-1. Unit Specifications 58
8-2. External Dimensions 59
Appendix. How to Reset BIOS 60
1. Opening BIOS Setup Menu 60
2. Setting Procedure 61

1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing Video Writer you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you will turn to FOR-A products again and again to satisfy your video and audio needs.
FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. FVW-500HS Overview

FVW-500HS is a system for displaying lines, objects, images, and movies onto a video image in real time. Creating custom icons allows you to control the application via the touch screen. It is ideal for live broadcast environments, including weather news and sports.

- Full featured finger based Telestrator
- Draw and point in real-time over input video
- Straight line, free-hand, and pre-programmed graphic shape mode available
- Various types of lines, thickness, edge-width and colors
- Image file mapping and High-light function
- Move and Delete functions for drawn objects
- Dynamic and intuitive operation by touch panel option
- Freely assignable custom buttons for various tools

1-3. Peripherals Needed for the System

The following peripherals are required depending on your system configuration.

◆ **A VGA monitor or a touch panel monitor**

<VGA monitor>
For viewing the image and operating the application, a VGA monitor and a connection cable are required.

VGA monitor ―――(VGA cable)―――VGA connector of FVW-500HS rear panel

<Touch panel monitor>
Instead of a VGA monitor, a touch panel monitor and a connection cable are required if you wish to operate the application with your fingers. In that case, the touch panel driver installation is also necessary. See section 3-3, “Installing Touch Panel Driver” for details.

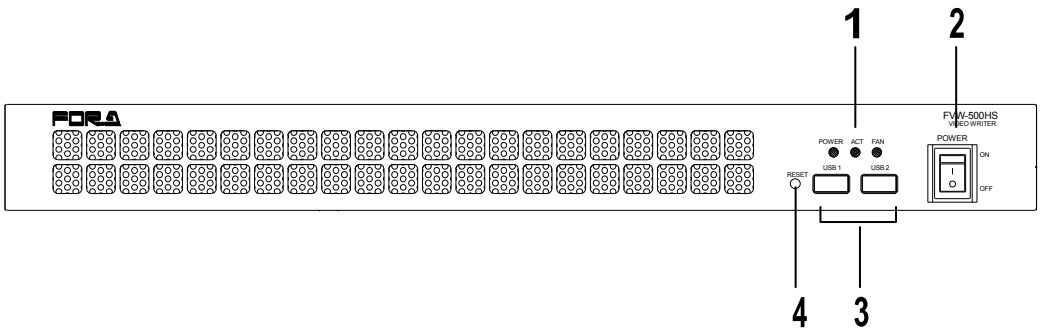
Touch panel――(VGA cable)―――VGA connector of FVW-500HS rear panel
Touch panel――(RS-232C cable)―― RS-232C connector of FVW-500HS rear panel

◆ **Mouse**
If you are using a VGA monitor, a mouse is required. Plug the mouse into one of the USB ports (USB1-4) on the front or rear of FVW-500HS.

◆ **Keyboard**
A keyboard is useful for entering text data. Plug the keyboard into one of the USB ports (USB1-4) on the front or rear of FVW-500HS. (An onscreen numeric keypad is also available.)

2. Panel Descriptions

2-1. Front Panel



No.	Name	Description		
1	Status indicators	POWER	Lit green	Power is applied to the unit.
			Unlit	The unit is powered off or no power cord is connected.
		ACT	Flashing green	Video Writer is running normally. It takes about 30 seconds for the ACT indicator to start flashing after FVW-500HS is powered on.
			Lit green Unlit	Video Writer is not running or not running correctly.
		FAN	Unlit	All cooling fans are operating normally.
			Lit red	One or more cooling fans failed. Turn off the power and replace the fans if necessary.
2	POWER switch	Used to turn the unit on and off. Pressing "｜" side turns the unit on. It takes about 5 seconds for the POWER indicator to light up after FVW-500HS is powered on. Wait **at least 10 seconds** and turn the power back on after powering off the FVW-500HS.		
3	USB1 USB2	For connecting USB devices such as a keyboard, mouse, and other USB devices (USB2.0 compatible).		
4	RESET	If the POWER indicator does not light up green 5 seconds after the power switch is turned on, press the RESET switch (normally not used).		

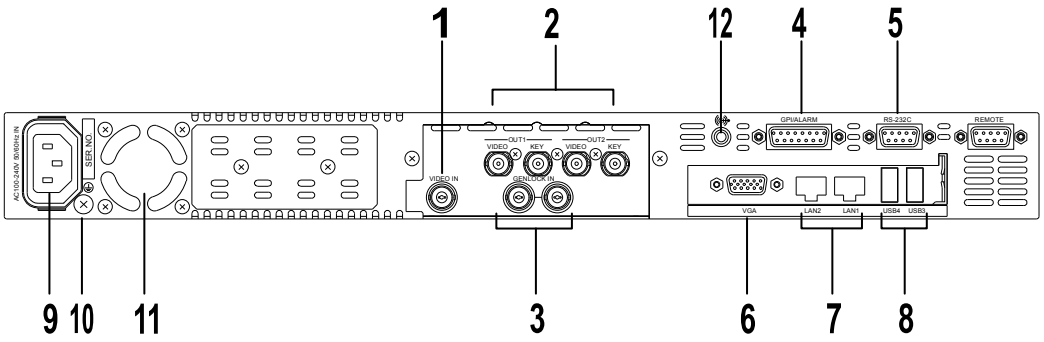
NOTE

If Video Writer is running normally, the ACT indicator flashes green. If the ACT indicator is lit or unlit, Video Writer is not running normally.

- If the application is not running, double-click the Video Writer shortcut icon to start the application.
- If the ACT indicator does not flash due to other reason than stated above, turn off the power switch of FVW-500HS and turn it on again.

If the FAN indicator lights up red, it indicates fan failure. Turn off FVW-500HS and contact your dealer.

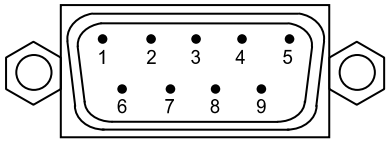
2-2. Rear Panel



No.	Name	Description	Ref.
1	VIDEO IN	For inputting an HD/SD SDI signal (BNC).	3-1-1
2	OUT1 VIDEO OUT1 KEY OUT2 VIDEO OUT2 KEY	For outputting an HD/SD SDI signal (BNC). The VIDEO IN signal is bypassed to OUT1 VIDEO when FVW-500HS is powered off.	3-1-1
3	GENLOCK IN	For inputting an external reference signal (B.B. or tri-level sync) to either of two connectors. The other connector is for loopthrough connection. It must be terminated with a 75 ohm terminating resistor when not used.	3-1-1 3-4 5-3-1
4	GPI / ALARM	For outputting power / fan alarm and GPI input/output. (15-pin D-sub female)	2-4
5	RS-232C	For connecting a touch panel. (9-pin D-sub male)	2-3 3-1-1
6	VGA	For connecting a VGA monitor. If a touch panel is used, this connector is used to connect with the VGA connector of the touch panel.	3-1-1
7	LAN1/2	For connecting to a computer Ethernet port. (100BASE-TX/1000BASE-T, RJ-45) (Not used.)	
8	USB3 USB4	For connecting USB devices such as a keyboard, mouse, and other USB devices (USB2.0 compatible).	3-1-1
9	AC IN	For connection to AC power source via accessory power cord. (100-240VAC 50/60Hz)	
10	Ground terminal	For grounding unit to protect operators against static electricity and / or electrical shock.	
11	Cooling fan	For cooling unit to prevent overheating. Do not block the fan intake at the right side of the unit with other equipment or objects.	
12	Audio out	Audio connector. Compliant to Intel High Definition Audio, 2ch (Realtek ALC262)	

2-3. Serial Interface

◆ **RS-232C**

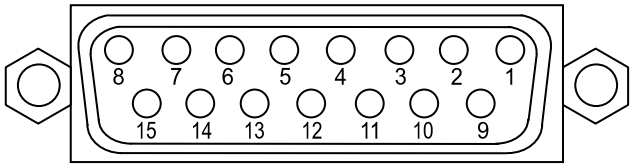


Pin Assignment Table (9-pin D-sub, male)

Pin No.	Signal Name	In/Out	Description
1	DCD	In	Data carrier detect
2	RXD	In	Receive data
3	TXD	Out	Transmit data
4	DTR	Out	Data terminal ready
5	GND		Signal ground
6	DSR	In	Data set ready
7	RTS	Out	Request to send
8	CTS	In	Clear to send
9	RI	In	Ring indicator

2-4. Parallel Interface

◆ **GPI / ALARM**



Pin Assignment Table (15-pin D-sub, female)

Pin No.	Signal Name	Description
1	GND	Signal ground
2	ALARM (POWER)	Power alarm output, normally open relay (*1)
3	ALARM (FAN)	Fan alarm output, normally open relay (*1)
4	N/C	Not used
5	GPI IN3	Not used
6	GPI IN2	Not used
7	GPI IN1	GPI input (DSK ON/OFF) (*2)
8	+5V	+5V DC output
9	COM	Power alarm output, fan alarm output, common (*1)
10	N/C	Not used
11	N/C	Not used
12	GPI OUT3	Not used
13	GPI OUT2	Not used
14	GPI OUT1	GPI output (DSK ON/OFF tally) (*3)
15	GND	Signal ground

*The maximum current rating for each relay output: 0.5A, 30V DC

(*1) See "Alarm Output Circuit" in page 5.
(*2) See "GPI IN Circuit" in page 5.
(*3) See "GPI OUT Circuit" in page 6.

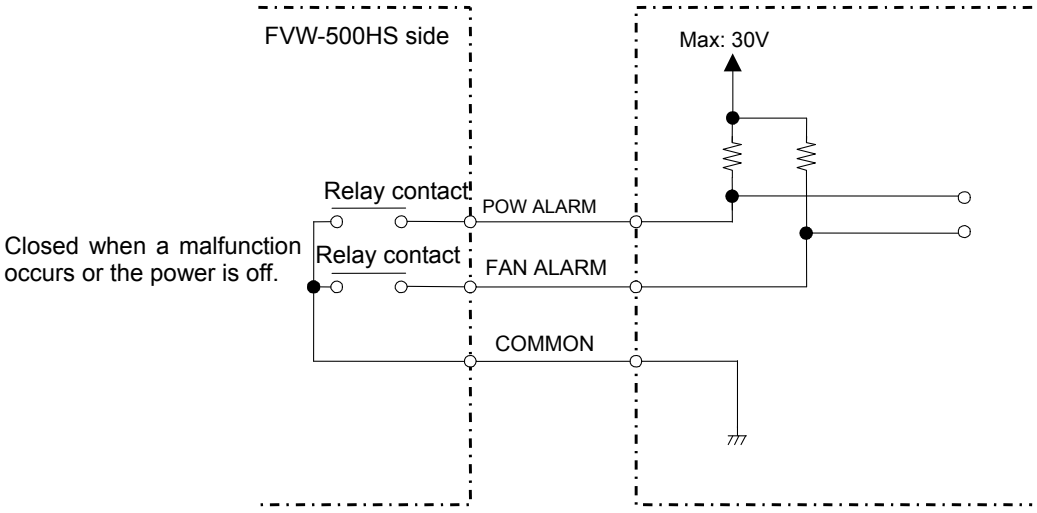
◆ **Alarm Output Circuit**

Normally open relay circuit. Contact rating: 0.5A@30VDC

Pin2: Power alarm output
Pin3: Fan alarm output
Pin9: the alarm common for both power alarm and fan alarm.

When operating normally:	An alarm pin and the common pin are open.
When a malfunction occurs or the power is off.	An alarm pin and the common pin are closed.

Alarm output



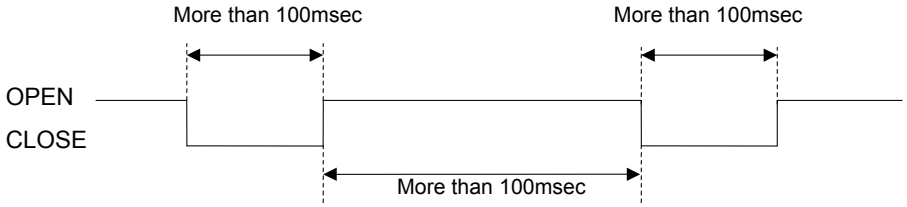
◆ **GPI IN Cirsuit**

Pulse level trigger type. GPI IN pin and GND pin change the state from open to closed.
Pulse width: 100msec or more, pulse interval: 100msec or more.

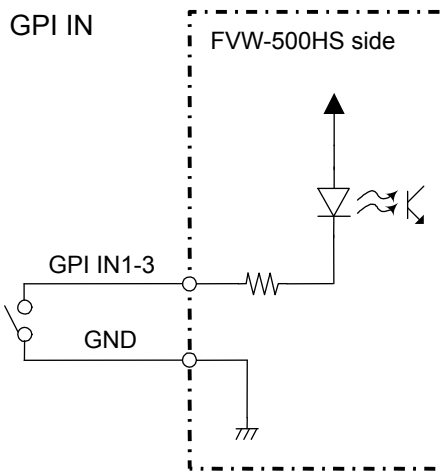
GPI IN1 (Pin7)

From open to closed position	Toggles function On/Off (DSK ON/OFF)

GPI IN pulse



GPI IN

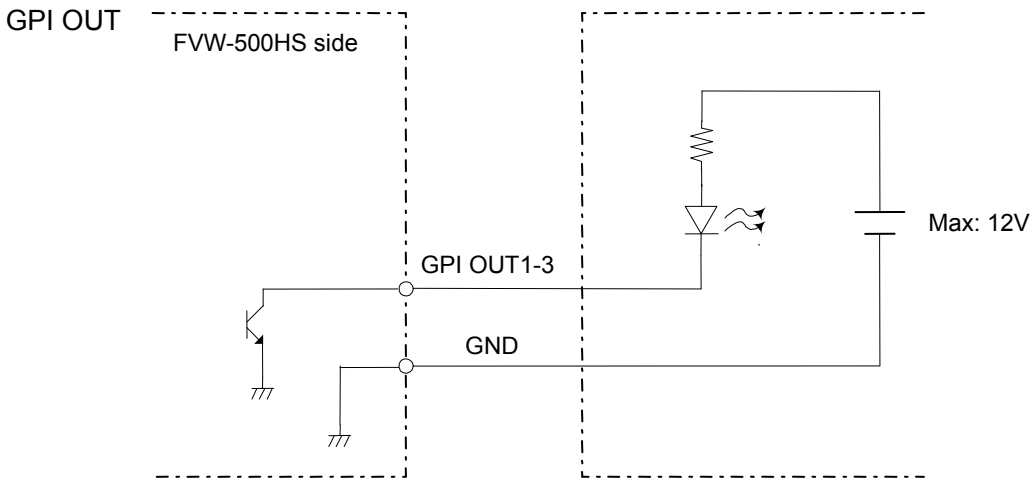


◆ **GPI OUT Circuit**

Open collector output.
When using an external power source, its voltage should be 12V or less.
The output current of each GPI OUT pin should be less than 20mA.

GPI OUT1 (Pin14)

When DSK is ON:	The pin and the ground pin are shorted.
When DSK is OFF:	The pin and the ground pin are open.

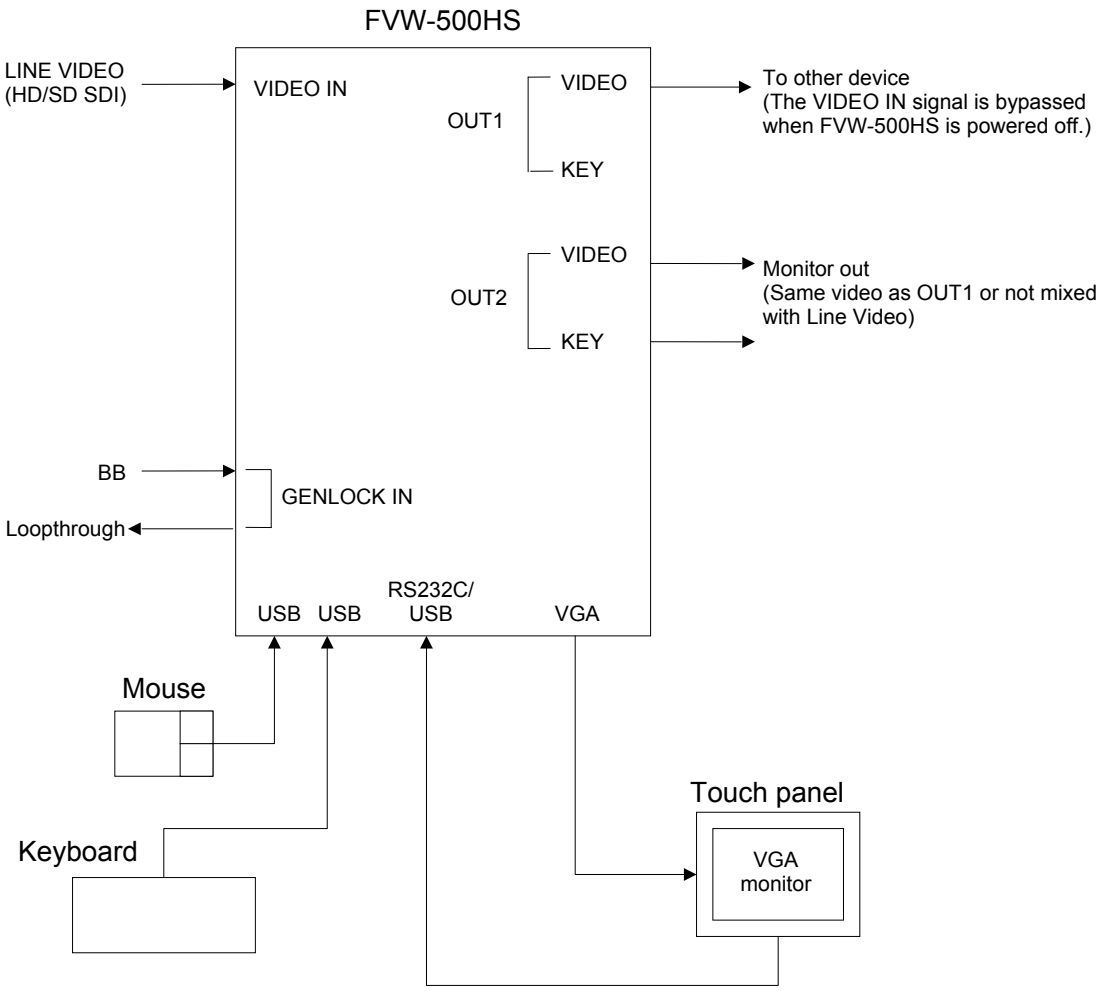


3. Setup

3-1. Connection

3-1-1. Connection Example

The figure below illustrates a connection example.



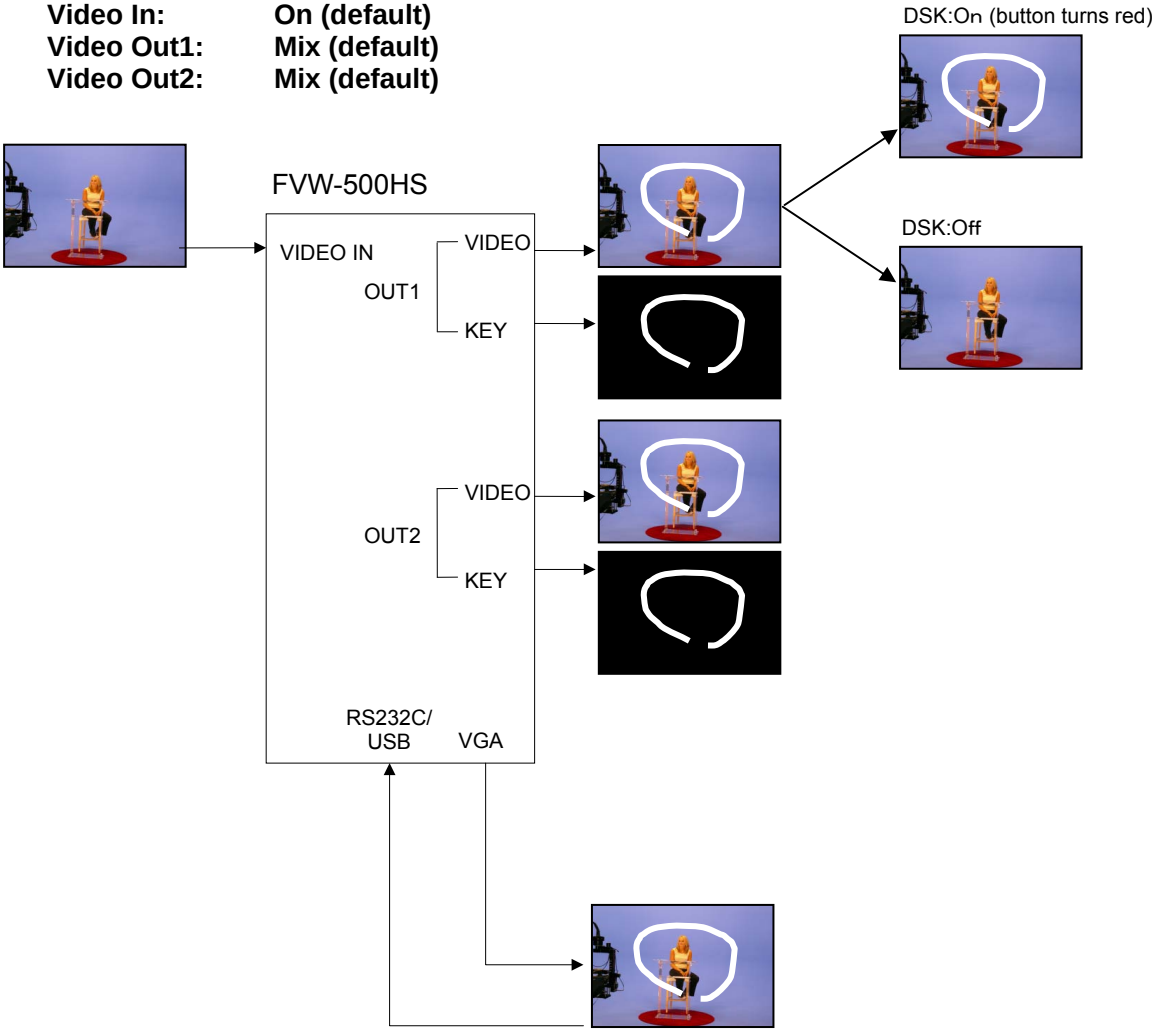
USB ports are provided for connecting a keyboard and a mouse. If you are using a PS/2 mouse and PS/2 keyboard, use USB-PS2 adapters. The VIDEO IN signal is bypassed to OUT1 VIDEO when FVW-500HS is powered off.

3-1-2. How to Display Images

FVW-500HS has three outputs: **OUT1** (video signal and key signal), **OUT2** (video signal and key signal), and **VGA**. Set the **Video In**, **Video Out1**, and **Video Out2** settings in the **Option** dialog box (see section 5-3-1, “Video In / Video Out Settings”) and the background button in the main window (see section 4-2-8, “Selecting a Background Image”) to set whether to output the Video Writer image or whether to use the VIDEO IN image as the background. In addition, if both the Video Writer image and VIDEO IN image are output, use the DSK button in the main window to show and hide the Video Writer image (see section 4-2-9, “DSK On/Off”).

If the settings are as below, the images are displayed as shown in the figure below.

Background: **Live**
Video In: **On (default)**
Video Out1: **Mix (default)**
Video Out2: **Mix (default)**



To output **VIDEO IN** image to **OUT1**, **OUT2**, and **VGA**, click the **Live** background button in the main window. If **Live** is selected, the Video Writer objects (such as lines, spotlights, and circles etc…) and the **VIDEO IN** image are displayed. To use other image as the background, select the image with the background button. The same image is output to **OUT1** and **OUT2**.

Background: Live

Background: soccor_bg1

3-2. Powering On

After all connections are made, power on peripherals and then power on FVW-500HS. Video Writer is automatically started when Windows is started up.

NOTE

It takes about 5 seconds for the POWER indicator to light up after FVW-500HS is powered on.

You can power off FVW-500HS without exiting Video Writer and shutting down Windows. To turn off the system, turn off FVW-500HS, and then turn off the monitor.

NOTE

Note that the C: drive of the FVW-500HS is write-protected. Please do not create folders and files to the C: drive or desktop. Instead, please save all folders and files to the D: drive.

If files are save to the C: drive, the following errors may rarely occur.

-Windows hangs up
-The message “Error” is displayed while Video Writer is running or when changing the video format, and Video Writer is closed.

If these happen, turn off the power and restart the FVW-500HS.

3-3. Installing Touch Panel Driver

In order to use a touch panel, the touch panel driver must be installed. To allow powering off FVW-500HS without shutting down the computer, the C: drive is write-protected. You need to disable the write protection before installing the driver. Follow the steps below to disable the write protection, install the driver, and enable the write protection again.

1. Click the ☒ button in the upper right corner of the window to exit **Video Writer**.
2. Double-click the **ewf_disable.bat** in **D:\forawork** to execute the batch file.
3. **Command Prompt** opens and shows the following messages. Press any key once on the keyboard.

```
**************************************************************************
The write-protection (EWF) for the boot drive(C:) is set to disable.
Execute the shutdown of Windows before turning off the power supply when write-protection is
disabled.
**************************************************************************
Press any key to continue . . .
```

4. The following messages appear. Check that **Disable** is shown in **Boot Command** and press any key once on the keyboard. **Command Prompt** closes.

```
** Disabling overlay

Protected Volume Configuration
      Type                  RAM
      State                 ENABLED
      Boot Command          DISABLE
          Param1            0
          Param2            0
      Persistent Data       " "
      Volume ID             XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX
      Device Name           "\Device\HarddiskVolume1" [C: ]
      Max Levels            1
      Clump Size            512
      Current Level         1
```

```
    Memory used for data 8552960 bytes
    Memory used for mapping 12288 bytes

********************************************************************************
The write-protection for the boot drive was set to disable.
It is reflected in the next boot. Please restart the Windows.
********************************************************************************
Press any key to continue . . .
```

6. Restart Windows from the **Start** menu.
7. After restarting, **install the touch panel driver for your touch panel. Be sure to use the driver built for Window XP.**
8. After installing the driver, double-click the **ewf_enable.bat** in **D:\forawork** to execute the batch file.
9. **Command Prompt** opens and shows the following messages. Press any key once on the keyboard.

```
********************************************************************************
The write-protection (EWF) for the boot drive(C:) is set to enable.
The any driver cannot install when write-protection is enabled.
********************************************************************************
Press any key to continue . . .
```

10. The following messages appear. Check that **Enable** is shown in **Boot Command** and press any key once on the keyboard. **Command Prompt** closes.

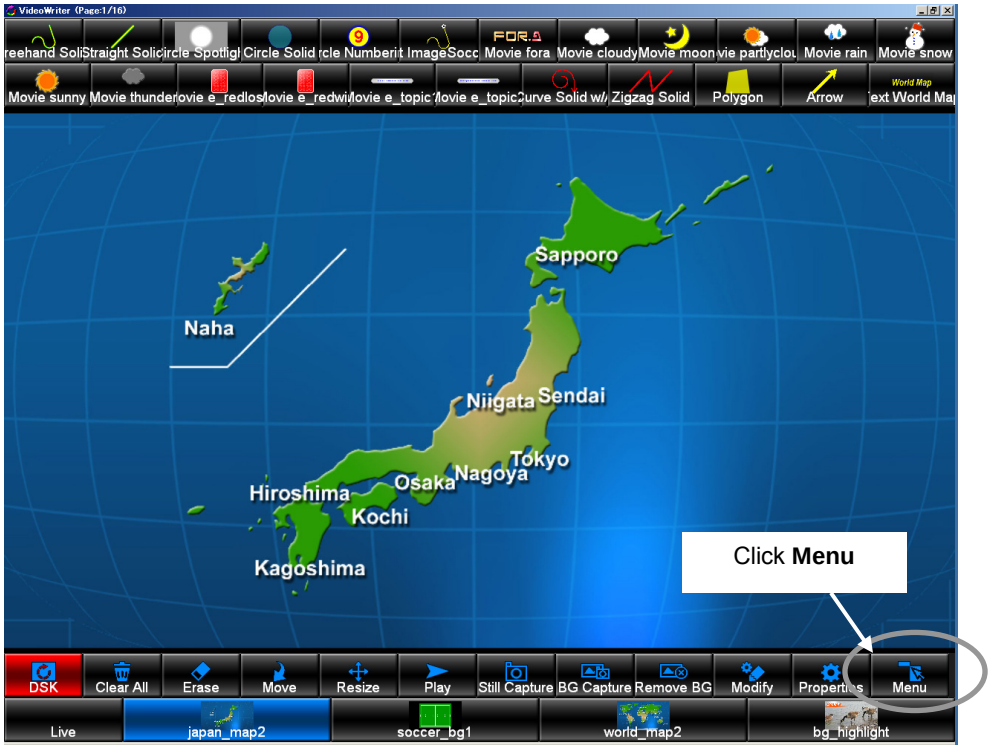
```
** Enabling overlay

Protected Volume Configuration
    Type                RAM
    State               DISABLED
    Boot Command        ENABLE
        Param1          0
        Param2          0
    Persistent Data     " "
    Volume ID           XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX
    Device Name         "\Device\HarddiskVolume1" [C: ]
    Max Levels          1
    Clump Size          512
    Current Level       N/A

    Memory used for data 0 bytes
    Memory used for mapping 0 bytes

********************************************************************************
The write-protection for the boot drive was set to disable.
It is reflected in the next boot. Please restart the Windows.
********************************************************************************
Press any key to continue . . .
```

11. Shutdown Windows from the **Start** menu.
12. After shutting down, power off FVW-500HS.
13. Wait for about 10 seconds and turn on the power switch. Now the driver installation is complete.

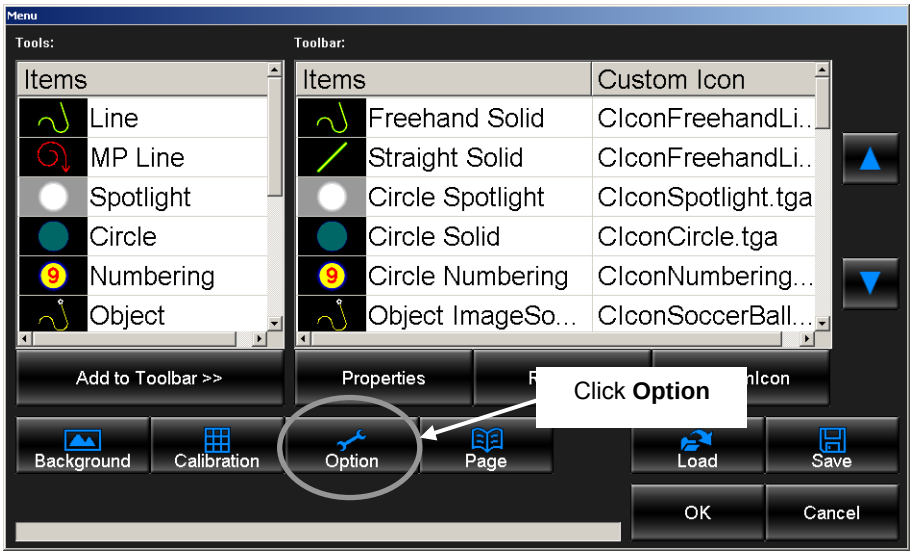
3-4. System Setting

This section describes how to select the video format and the reference signal, and adjust the genlock phases.

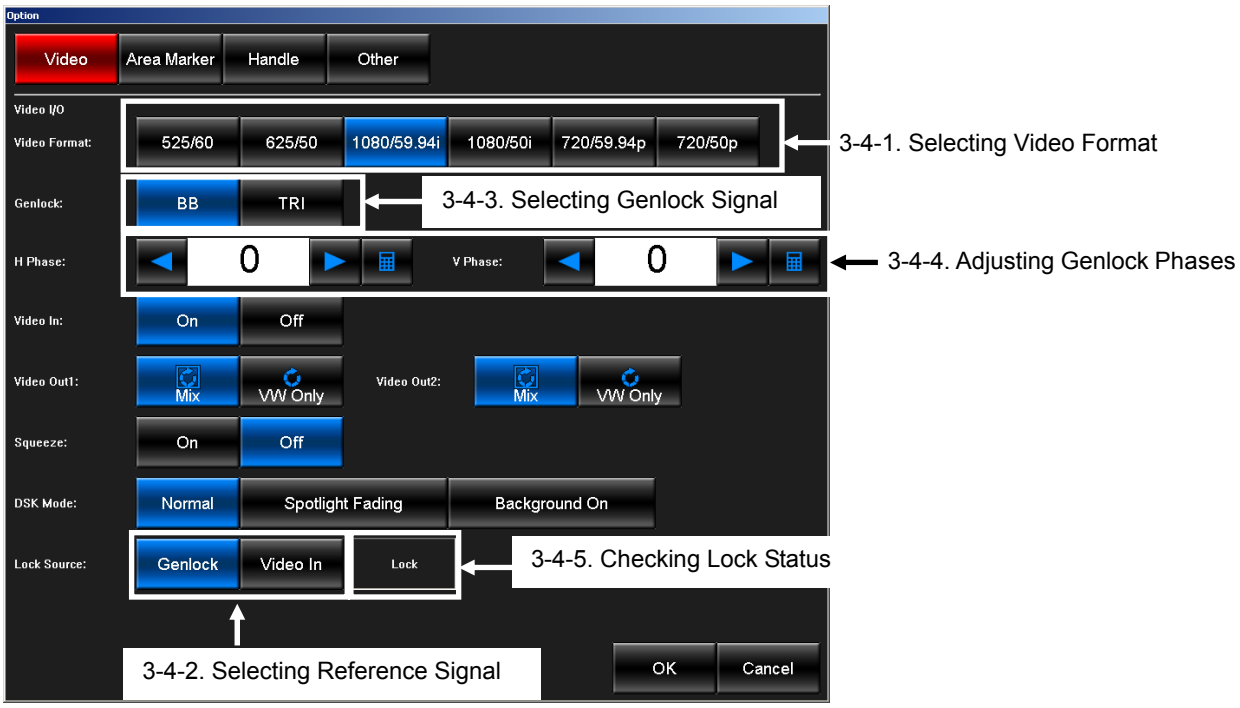
1. Click the **Menu** button in the main window.



2. Click the **Option** button.



3. The screen for the video option settings appears.



3-4-1. Selecting Video Format

To change video format, click a button in **Video Format**. It takes about several seconds to change the format.

3-4-2. Selecting Reference Signal

To use a genlock signal, select **Genlock** in **Lock Sorce**. To use a video input signal, select **VIDEO IN**.

3-4-3. Selecting Genlock Signal

To use a black burst signal, select **BB** (Black Burst) in **Genlock**. To use a tri-level sync signal, select **TRI**. This setting is necessary when **Lock Source** is set to **Genlock**.

3-4-4. Adjusting Genlock Phases

Adjust the horizontal phase and the vertical phase of the genlock signal in **H Phase** and **V Phase**. These settings are necessary when **Lock Source** is set to **Genlock**.

Setting range differs according to the video format. See section 5-3-1, “Video In / Video Out Settings” for details.

3-4-5. Checking Lock Status

The status of whether or not the signal is properly synchronized with the signal selected in **Lock Source** is indicated.

Lock: The signal is properly synchronized.

Unlock: The external reference signal may not be present or the setting may not be properly made. Check procedures described in section 3-4-1 through 3-4-4.

4. Using Video Writer

4-1. Starting and Exiting Video Writer

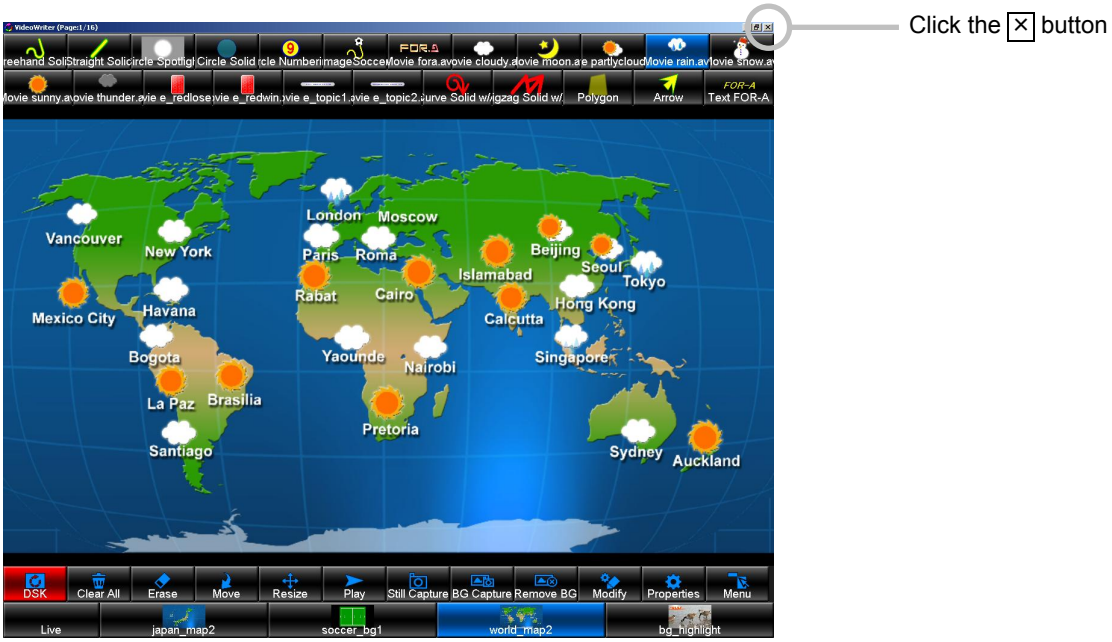
4-1-1. Starting Video Writer

On the desktop, double-click the shortcut to **VideoWriter**.

NOTE
Video Writer is automatically started when FVW-500HS is powered on. Normally you do not need to start the application manually.

4-1-2. Exiting Video Writer

Click the ⊠ button in the upper right corner of the main window.



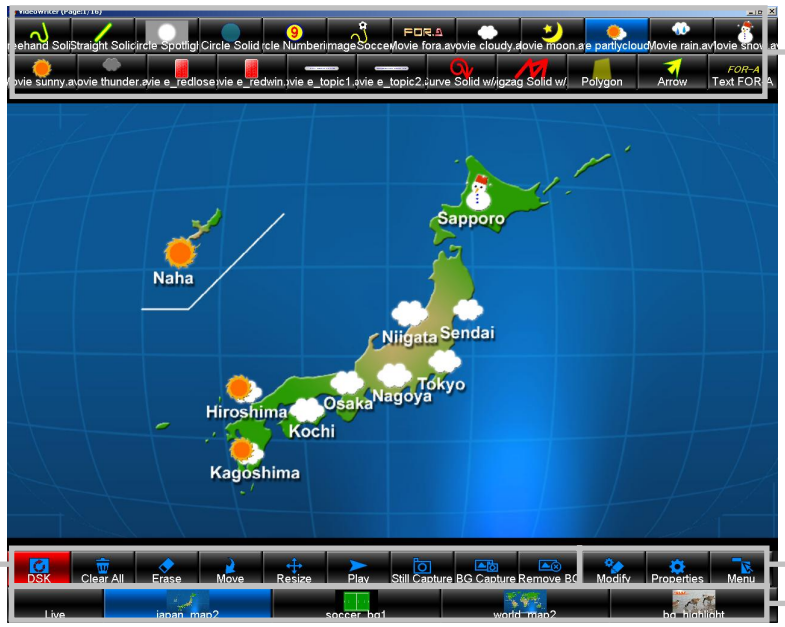
Main Window

NOTE
You can power off FVW-500HS without exiting Video Writer and shutting down Windows.

4-2. Basic Operations

4-2-1. Main Window

Use the draw tools preset in advance to draw objects on the screen.
See section 5, “Setting Up Video Writer” for details on properties settings.



Main Window

Draw Tools

Line	Allows you to draw lines.	4-2-2
Spotlight	Allows you to create spotlight effects.	
Circle	Allows you to create circles and ovals.	
Numbering	Allows you to add numbering.	
Object	Allows you to add images.	
Movie	Allows you to add movies.	
Multi Pointed Line	Allows you to draw multi pointed lines.	
Polygon	Allows you to create polygons.	
Arrow	Allows you to create arrows.	
Text	Allows you to add texts.	

Function Buttons

DSK	Enables and disables to output the Video Writer image onto the OUT1 image (VIDEO/KEY).	4-2-9
Clear All	Clears all objects created using draw tools.	4-2-3
Erase	Allows you to clear objects created using draw tools.	4-2-3
Move	Allows you to move objects created using draw tools.	4-2-4
Resize	Allows you to resize objects created using draw tools.	4-2-5
Play	Plays movies added using the **Movie** tool.	4-2-10
Still Capture	Captures a frame from a video input and saves it as an image file.	4-2-6
BG Capture	Captures a frame from a video input, saves it as an image file, and creates a background button in the main window.	4-2-6
Remove BG	Removes the selected background button and its background image from the main window.	5-2-6

Setup Buttons

Modify	Opens the **Properties** dialog box of the selected object.	4-2-7
Properties	Opens the **Properties** dialog box of the selected draw tool.	5-1
Menu	Opens the **Menu** dialog box.	5-2

Background Buttons

Live	No background image is displayed. The VIDEO IN image is displayed.	4-2-8
File name/ Thumbnail	Displays a background image.	4-2-8

Right-Click Menu

Layer	Arranges the layer order of objects.	4-2-11

Right-Double-Clicking

Show/hide function buttons and setup buttons	Shows and hides the function buttons and the setup buttons in the main window.	4-2-12

Keyboard

Move between pages	Press the Page Up key on the keyboard to display the next page. Press the Page Down key to display the previous page.	4-2-13
Move between background images	Press the left and right arrow keys (←, →) on the keyboard to move between background images.	4-2-8

4-2-2. Creating an Object

To draw an object preset in advance, select a draw tool on the main window and click or drag on the screen.

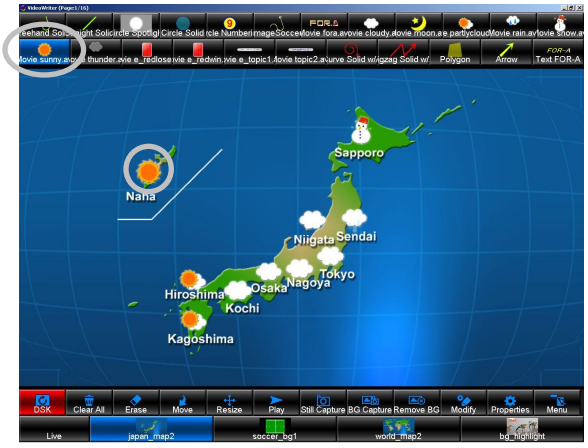
The Spotlight and Movie objects cannot be placed at the same time.

Spotlight, Numbering, Object, Movie, and Text Tools
Dragging the mouse before releasing the mouse button allows you to move the object position. The object is placed where the mouse button is released.

Spotlight Tool

Numbering Tool

Object Tool



Movie Tool

Text Tool

Line and Arrow Tools

Where the mouse button is clicked will be the start point of the line, and where the mouse button is released will be the end point of the line.

Line Tool

Arrow Tool

Circle Tool

Where the mouse button is clicked will be the center point of the circle. If **Draw Mode** is set to **Click** in **Circle Properties**, clicking on the screen places a circle in the size specified in **Size**. If **Draw Mode** is set to **Drag**, dragging the mouse before releasing the mouse button allows you to resize the circle.

Circle Tool

Multi Pointed Line and Polygon Tools

Clicking on the screen makes a handle (anchor point). Clicking again adds a new handle and draws a segment line or a side of the polygon. To create multiple lines or polygons, click the **Multi Pointed Line** or **Polygon** tool again, and then repeat the steps.

Multi Pointed Line Tool

Polygon Tool

4-2-3. Erasing an Object

In the main window, click **Erase** and click an object or effect you wish to erase.

> For Multi Pointed Line and Polygon, clicking a handle erases just the handle, and clicking an object erases the whole object.
>
> Clicking **Clear All** clears all objects and effects (except the background image) from the window.

Select **Erase** and click an object

4-2-4. Moving an Object

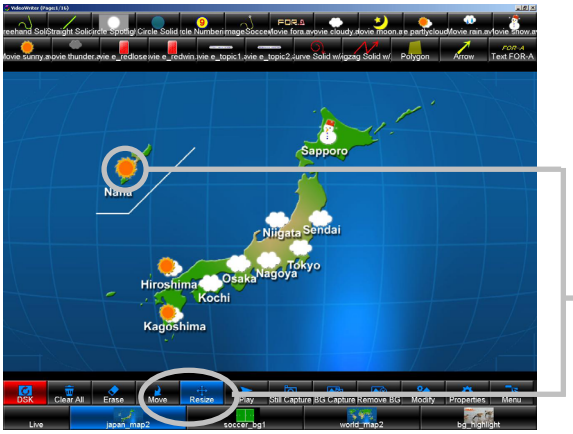
In the main window, select **Move** and drag an object or effect you wish to move.

> For Multi Pointed Line and Polygon, dragging a handle moves just the handle, and dragging an object moves the whole object.

Select **Move** and drag an object

4-2-5. Resizing an Object

In the main window, select **Resize** and drag the edge of an object or effect you wish to resize.



Select **Resize** and drag the edge of an object

4-2-6. Capturing a Still Image from Video Input

Still Capture (or **BG Capture**) allows you to capture a frame from the video input when the button is clicked and save it as a still image file. A dialog box for specifying the file name appears. Specify the file name and directory and save the file.

For touch screen, an on-screen keyboard can be used to specify the file name. To display the on-screen keyboard, set **Screen Keyboard** to **Enable** in **Menu > Option > Other**.

In the same way as **Still Capture**, **BG capture** can also save a still image, and at the same time, it creates a background button of the captured image. If you wish to use the captured image as the background, **BG Capture** is convenient.

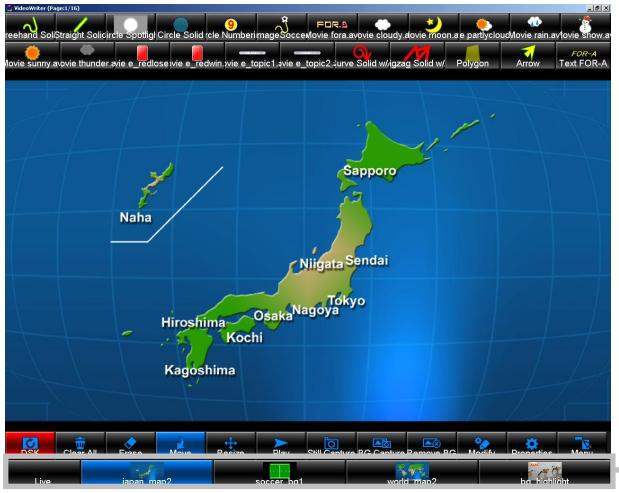
4-2-7. Modifying Properties

In the main window, select **Modify** and click an object you wish to modify the properties. The **Properties** dialog box is displayed. In this dialog box, you can change the properties of the clicked object. The setting method is the same as **Properties**. See section 5-1, “Properties.” The **Modify** button is used to make settings of the clicked objects on the screen only. On the other hand, the **Properties** button is used to make settings of tool buttons.

4-2-8. Selecting a Background Image

In the main window, check the file names and thumbnails displayed on the background buttons and click to select a desired background button. Or use the right and left arrow keys on the keyboard. The selected background button turns blue and the image is displayed in the window. If you do not wish to display any background image, click **Live**.

NOTE
You can also change the background button order. Click a desired button and drag and drop it to the desired position while pressing Ctrl on the keyboard.



Click **Live** or desired Background button

IMPORTANT
To display the VIDEO IN image, click the **Live** background button.

4-2-9. DSK On/Off

Selecting **DSK** in the main window turns the button to red and outputs the Video Writer image onto the **VIDEO IN** image when **Video Out 1** in the **Option** dialog box is set to **Mix** (See section 5-3-1, "Video In / Video Out Settings "). Clicking **DSK** again while it is selected turns back the button to black and only the **VIDEO IN** image is shown in **OUT1**.

IMPORTANT
The **DSK** setting affects only to **OUT1**. The mixed image is always shown in **OUT2**. (See section 3-1-2, "How to Display Images.") Setting **DSK** to **On** or **Off** can be performed by using GPI IN function. (See section 2-4, "Parallel Interface" for details. The behavior of when DSK is turned on and off differs according to the **DSK Mode** setting. See section 5-3-1, "Video In / Video Out Settings" for details.

4-2-10. Playing Movies

The movies placed onto the screen using the **Movie** tool appear differently depending on the **Loop** and **Auto Reverse** settings in the **Movie Properties** dialog box. See also section 5-1-7, “Movie Properties.”

If **Loop** is set to **On** and **Auto Reverse** is set to **Off**:
The movie is looped regardless of whether the **Play** button in the main window is selected or not.

If both **Loop** and **Auto Reverse** are set to **Off**:
To start the movie, click a movie on the screen while the **Play** button in the main window is selected.

If **Loop** is set to **Off** and **Auto Reverse** is set to **On**:
To start the movie, click a movie on the screen while the **Play** button in the main window is selected. Clicking other movie, which **Loop** is set to **Off** and **Auto Reverse** is set to **On**, plays the movie and plays the last played movie backward at the same time. **Auto Reverse** is not functional when **Loop** is set to **On**.

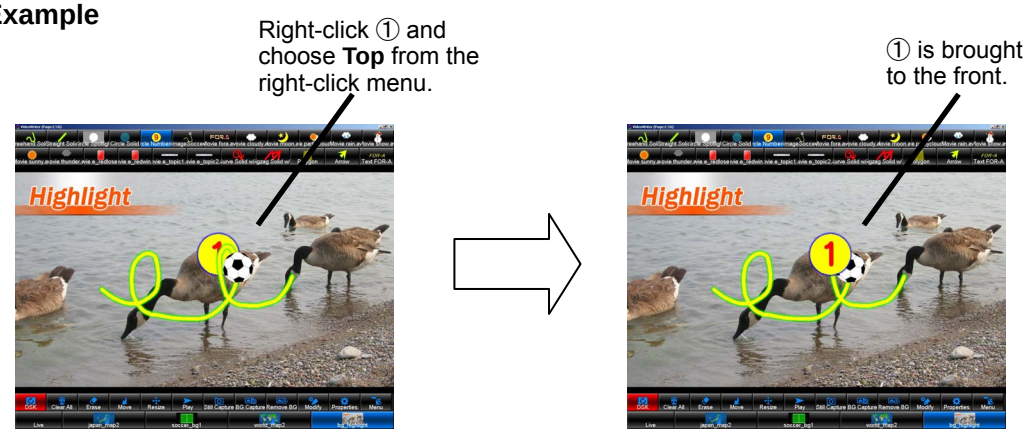
4-2-11. Arranging Layer Order

To arrange the layer order of overlapped objects, follow the steps below.

Right-click the object you wish to arrange the layer order. A right-click menu is displayed. Refer to the table below and arrange the layer order.

Top	Brings the selected object to the front.
Up	Brings the selected object one layer forward.
Down	Sends the selected object one layer backward.
Bottom	Sends the selected object to the back.

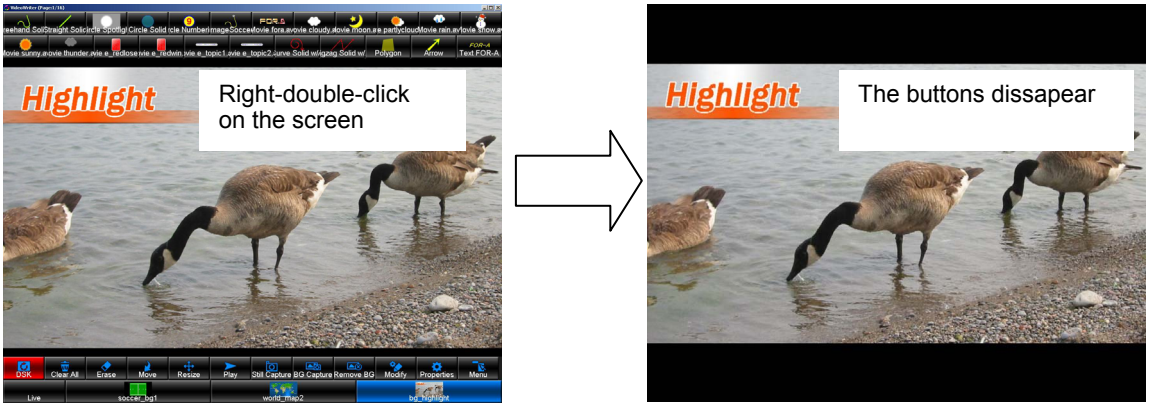
Example



NOTE
The Movie objects cannot be overlapped. The layer order can only be arranged for the still images added using the Object tool. The Movie objects are placed on top.

4-2-12. Showing and Hiding Function Buttons and Setup Buttons

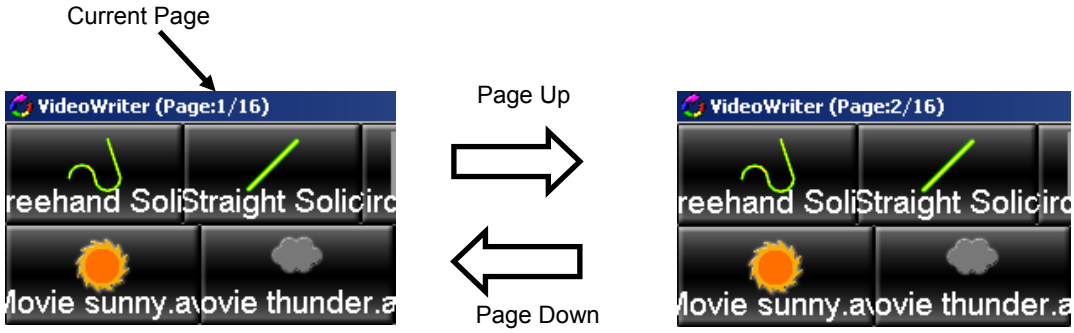
Right-double-click the drawing area to show or hide the draw tools, function buttons, and setup buttons.



4-2-13. Moving Between Pages

Video Writer has 16 drawing pages. The first page is displayed the first time the application is started. The page number appears in Video Writer's title bar.

Press the Page Up key on the keyboard to display the next page. Press the Page Down key to display the previous page.

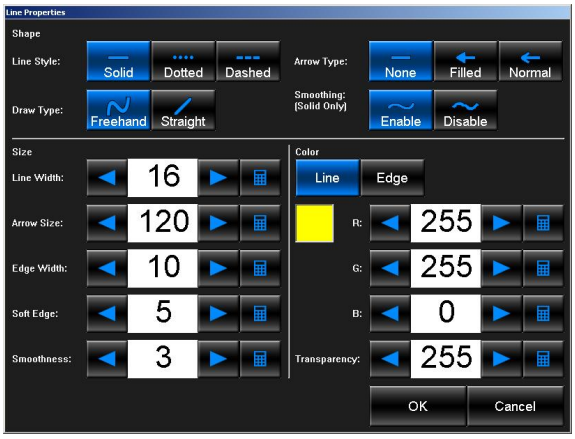


Clicking the **Clear All** function button clears the objects in the current page only. The objects in the other pages are not cleared.

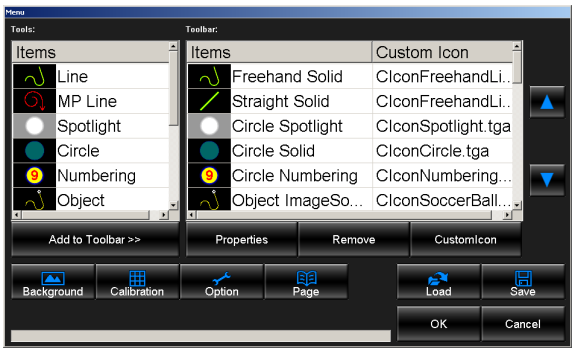
Furthermore, naming and clearing pages, and switching pages is also possible. See section 5-3-5, "Page" for details.

5. Setting Up Video Writer

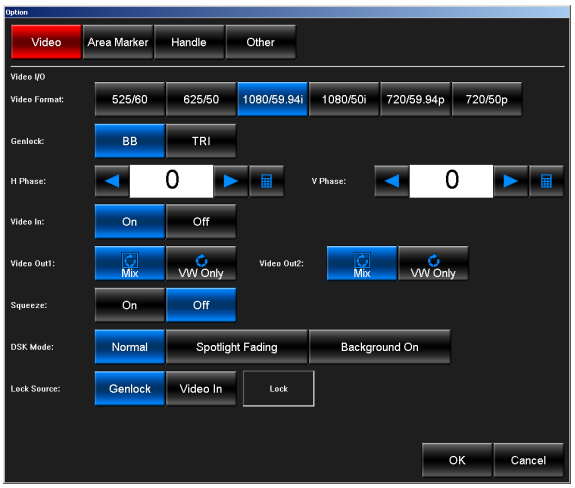
To use **Video Writer**, the settings must be configured in advance in the **Properties**, **Menu**, **Option**, and **Page** dialog boxes. The **Properties** dialog boxes allow you to set the properties of draw tools. (See section 5-1, “Properties” for details.) The **Menu** dialog box allows you to add, edit, and remove draw tools, and make the background settings, and custom icon settings for touch screen use. Loading and saving Video Writer files can also be done in this dialog box. (See section 5-2, “Menu” for details.) The **Option** dialog box allows you to show and hide custom icons and safety area markers, and make the video format, reference signal, and other settings. (See section 5-3, “Option” for details.) The **Page** dialog box allows you to make the page settings. (See section 5-3-5, “Page” for details.)



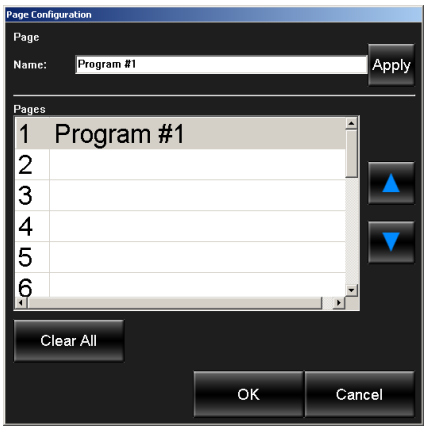
Properties Dialog Box



Menu Dialog Box



Option Dialog Box



Page Configuration Dialog Box

Dialog Boxes

Properties	Select a draw tool in the main window and click the **Properties** button to open its **Properties** dialog box. The **Properties** dialog boxes allow you to make the properties settings of draw tools.
Menu	Click the **Menu** button in the main window to open the **Menu** dialog box. This dialog box allows you to add, edit, and remove draw tools, and make background settings and calibration settings. The custom icon settings for touch screen use can also be done in this dialog box.
Option	Click the **Option** button in the **Menu** dialog box. This dialog box allows you to show and hide custom icons and safety area markers, and make the video format, undo, dialog mode, and other settings.
Page	Click the **Page** button in the **Menu** dialog box. This dialog box allows you to name and clear pages, and switch page numbers.

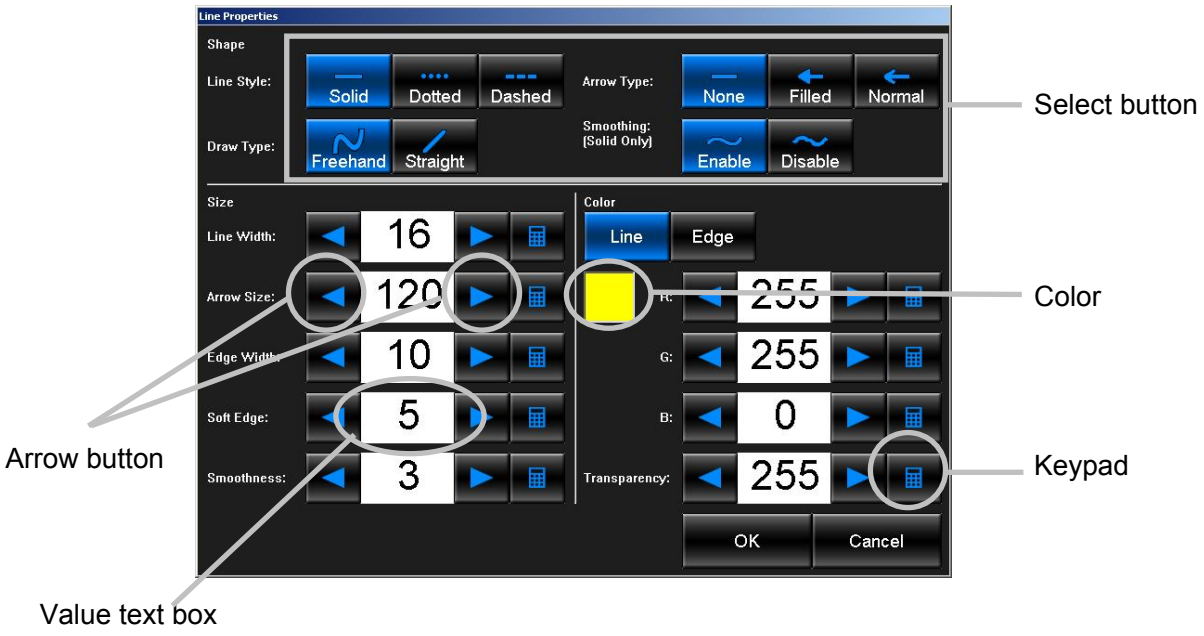
5-1. Properties

To open a **Properties** dialog box, select a draw tool in the main window and click the **Properties** button. In the **Properties** dialog boxes, the properties settings of draw tools can be made. Icons of draw tools appear differently depending on the properties settings.

NOTE
A **Properties** dialog box cannot be displayed when a function such as **Erase**, **Move**, **Resize**, **Play**, or **Modify** is processed. Complete or cancel the current operation, select a draw tool in the main window and click the **Properties** button to open the **Properties** dialog box.

5-1-1. User Interfaces Used in Properties Dialog Boxes

Each draw tool displayed in the main window has a separate **Properties** dialog box.



Select button	Allows you to select the style or type for the draw tool. The selected button turns blue.
Left and right arrow buttons	Allows you to change the property value by one step each time the button is clicked. Dragging the left arrow button to the left or the right arrow button to the right lets you change the value quickly.
Value text box	Allows you to enter the property value directly.
Color	Opens the **Color** dialog box. Select a color in **Basic Colors** or define a new color in **Define Custom Colors**.
Keypad	Opens the **Keypad** dialog box. This dialog box allows you to enter the value directly when using a touch screen.

5-1-2. Line Properties

To display the **Line Properties** dialog box, select the **Line** tool and click the **Properties** button in the main window. In this dialog box, the line settings such as the style and color can be made. After setting all properties, click **OK** to apply the settings.

Shape

Item	Setting Range	Description
Line Style	Solid, Dotted, Dashed	Allows you to select the line style.
Arrow Type	None, Filled, Normal	Allows you to select the arrow type.
Draw Type	Freehand, Straight	Allows you to select the draw type.
Smoothing (*1)	Enable, Disable	Allows you to select whether to enable or disable Smoothing for freehand lines.

(*1) **Smoothing** is only enabled when **Draw Type** is set to **Freehand**. If set to **Straight**, the **Smoothing** setting is ignored.

Size

Item	Setting Range	Description
Line Width	5-200 (*2)	Allows you to set the line width.
Arrow Size	5-200	Allows you to set the arrow size.
Edge Width	0-100 (*2)	Allows you to set the edge width.
Soft Edge	0-200	Allows you to set the softness of edge.
Smoothness	1-100	Allows you to set smoothness of the freehand line.

(*2) The sum of **Line Width** and both sides of **Edge Width** cannot exceed **200**.

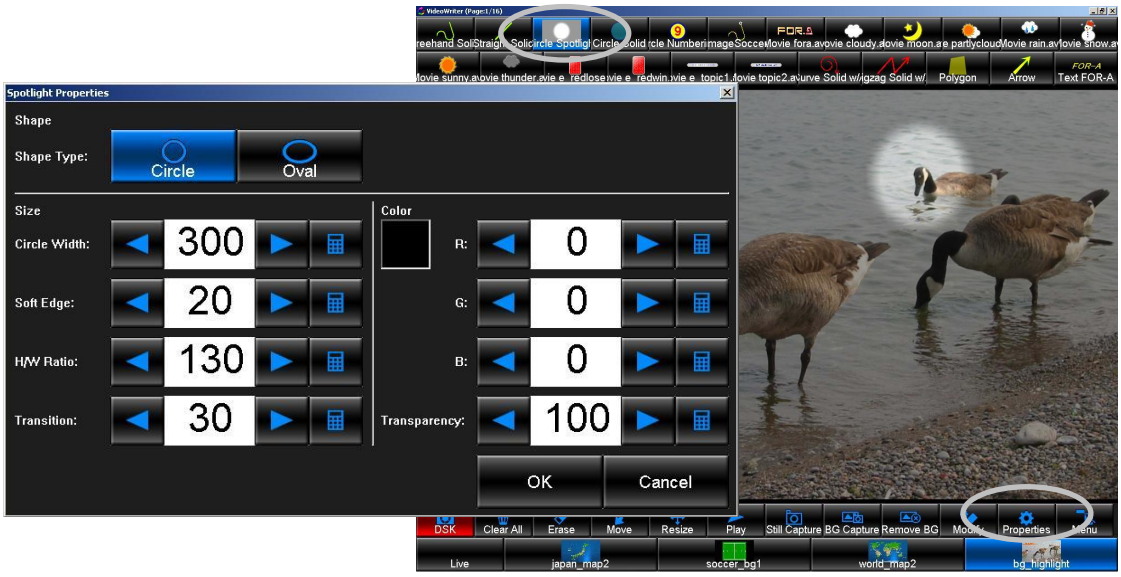
Color

Item	Setting Range	Description
☐	-	Clicking ☐ after selecting the **Line** or **Edge** button opens the **Color** dialog box, which allows you to set the color of Line and Edge separately. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for Line and Edge after selecting the **Line** or **Edge** button.
Transparency	1-255	Allows you to set the transparency for Line and Edge.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-3. Spotlight Properties

To display the **Spotlight Properties** dialog box, select the **Spotlight** tool and click the **Properties** button in the main window. In this dialog box, the spotlight settings such as the size and softness can be made. After setting all properties, click **OK** to apply the settings.



Shape

Item	Setting Range	Description
Shape Type	Circle, Oval	Allows you to select the shape type.

Size

Item	Setting Range	Description
Circle Width	5-500	Allows you to set the circle width.
Soft Edge	0-200	Allows you to set the softness of edge.
H/W Ratio	50-150	Allows you to set the ratio of the height to the width of spotlight. This setting is effective only when **Shape Type** is set to **Oval**.
Transition	0-999	Applies a fade-in effect to the spotlight. Set the duration in fields.

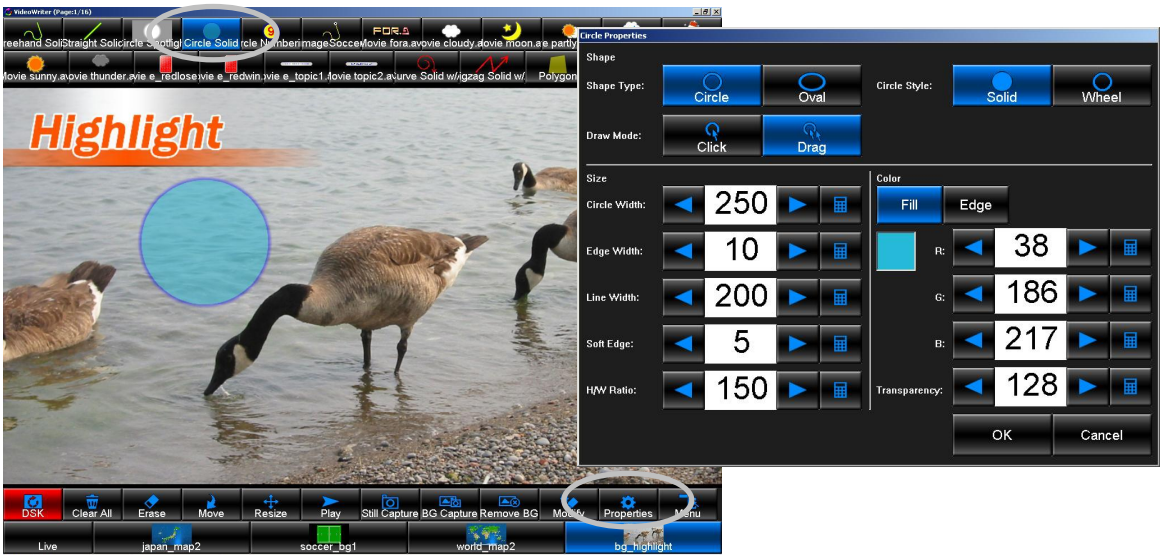
Color

Item	Setting Range	Description
☐	-	Clicking ☐ opens the **Color** dialog box. The currently selected color is displayed.
R, G, B	0-255	Allows you to set the R, G, B values for the mask color of spotlight.
Transparency	1-255	Allows you to set the transparency for the mask of spotlight.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-4. Circle Properties

To display the **Circle Properties** dialog box, select the **Circle** tool and click the **Properties** button in the main window. In this dialog box, the circle settings such as the style and color can be made. After setting all properties, click **OK** to apply the settings.



Shape

Item	Setting Range	Description	
Shape Type	Circle, Oval	Allows you to select the shape type.	
Circle Style	Solid, Wheel	Allows you to select the circle style.	
Draw Mode	Click, Drag	Click	Allows you to place circles by clicking on the screen, in the size specified in **Size**.
		Drag	Allows you to resize circles by dragging, when it first placed on the screen.

Size

Item	Setting Range	Description
Circle Width	5-500 (*1)	Allows you to set the circle width.
Edge Width	0-495 (*1)	Allows you to set the edge width.
Line Width	1-200 (*2)	Allows you to set the line width when **Circle Style** is set to **Wheel**.
Soft Edge	0-200	Allows you to set the softness of edge.
H/W Ratio	50-150	Allows you to set the ratio of the height to the width of circle. This setting is effective only when **Shape Type** is set to **Oval**.

(*1) The sum of **Circle Width** and **Edge Width** cannot exceed **500**.

(*2) When **Circle Kind** is set to **Wheel**, the sum of **Line Width** and both sides of **Edge Width** cannot exceed **200**.

Color

Item	Setting Range	Description
☐	-	Clicking ☐ after selecting the **Fill** or **Edge** button opens the **Color** dialog box, which allows you to set the color of Fill and Edge separately. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for Fill and Edge after selecting the **Fill** or **Edge** button.
Transparency	1-255	Allows you to set the transparency for Fill and Edge.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-5. Numbering Properties

To display the **Numbering Properties** dialog box, select the **Numbering** tool and click the **Properties** button in the main window. In this dialog box, the numbering settings such as the style and color can be made. After setting all properties, click **OK** to apply the settings.

Shape

Item	Setting Range	Description
Shape Type	Circle, Oval	Allows you to select the shape type.

Size

Item	Setting Range	Description
Circle Width	5-500 (*1)	Allows you to set the circle width.
Edge Width	0-495 (*1)	Allows you to set the edge width.
Soft Edge	0-200	Allows you to set the softness of edge.
H/W Ratio	50-150	Allows you to set the ratio of the height to the width of circle. This setting is effective only when **Shape Type** is set to **Oval**.

(*1) The sum of **Circle Width** and **Edge Width** cannot exceed **500**.

Color

Item	Setting Range	Description
☐	-	Clicking ☐ after selecting the **Fill**, **Edge**, or **Text** button opens the **Color** dialog box, which allows you to set the color of Fill, Edge, and Text separately. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for Fill, Edge, and Text after selecting the **Fill**, **Edge**, or **Text** button.
Transparency	1-255	Allows you to set the transparency for Fill, Edge, and Text.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-6. Object Properties

To display the **Object Properties** dialog box, select the **Object** tool and click the **Properties** button in the main window. In this dialog box, you can set an image to an **Object** tool. The image size can also be set. After setting all properties, click **OK** to apply the settings.

> The supported file formats which can be specified to the **Object** tool are **.tga**, **.png**, **.bmp**, **.jpg**, **.pbm**, **.sr**, **.tif**, **.exr**, and **.jp2**.

File

Item	Description
Folder	Allows you to specify the folder where the images are saved. Enter the full path in the text box or click the icon to open the **Browse For Folder** dialog box. The file names and thumbnails of the images saved in the specified folder are displayed in the **Files** list.
Files	The file names and thumbnails of the images in the folder specified in **Folder** are displayed. To set an image to an **Object** tool, select an image in this list. If you know the file name of the image you wish to select, you do not need to wait until the thumbnail is displayed. (The file names are displayed first, before the thumbnails are displayed.)

Style

Item	Setting Range	Description
Trail	Enable, Disable	Enables and disables the trail effect. When **Trail** is enabled, a path is drawn as you drag the object, when it is first placed.
	Properties	Allows you to set properties of the path when **Trail** is enabled. The setting method is the same as **Line Properties**.

Size

Item	Setting Range	Description
Object Width	5-999	Allows you to set the object width.
Object Height	5-999	Allows you to set the object height.
Original Size	-	Returns the image to the original size.
Constrain Proportions	On, Off	Changing the object width or height while **Constrain Proportions** is set to **On** constrains the proportions of the image.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-7. Movie Properties

To display the **Movie Properties** dialog box, select the **Movie** tool and click the **Properties** button in the main window. In this dialog box, you can set a movie to a **Movie** tool. The movie size and playback settings can also be made. After setting all properties, click **OK** to apply the settings.

> The supported file format which can be specified to the **Movie** tool is **.avi**. The images sequences such as tga images sequence and png images sequence can be converted to an **.avi** file using **aviConv**. See section. 7, “File Conversion Software (TGA/PNG to AVI)” for details.

File

Item	Description
Folder	Allows you to specify the folder where the movies are saved. Enter the full path in the text box or click the icon to open the **Browse For Folder** dialog box. The file names and thumbnails of the movies saved in the specified folder are displayed in the **Files** list.
Files	The file names and thumbnails of the movies in the folder specified in **Folder** are displayed. To set a movie to a **Movie** tool, select a movie in this list. If you know the file name of the movie you wish to select, you do not need to wait until the thumbnail is displayed. (The file names are displayed first, before the thumbnails are displayed.)

Size

Item	Setting Range	Description
Movie Width	5-999	Allows you to set the movie width.
Movie Height	5-999	Allows you to set the movie height.
Original Size	-	Returns the movie to the original size.
Constrain Proportions	On, Off	Changing the movie width or height while **Constrain Proportions** is set to **On** constrains the proportions of the movie.

Playback

Item	Setting Range	Description
Loop	On, Off	If set to **On**, the movie is looped. If set to **Off**, the movie is not played until the **Play** button is clicked.
Auto Reverse	On, Off	If set to **On**, the last played movie of which **Loop** is set to **Off** is played backward when other movie is played. If **Loop** of the last played movie is set to **On**, it is not played backward.

Color

Item	Setting Range	Description
Transparency	1-255	Allows you to set the transparency of the movie.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-8. Multi Pointed Line

To display the **Multi Pointed Line Properties** dialog box, select the **Multi Pointed Line** tool and click **Properties** button in the main window. In this dialog box, the line settings such as the style, line width, and color can be made. After setting all properties, click **OK** to apply the settings.

Shape

Item	Setting Range	Description
Line Style	Solid, Dotted, Dashed	Allows you to select the line style.
Arrow Type	None, Filled, Normal	Allows you to select the arrow type.
Draw Type	Curve, Zigzag	Allows you to select the draw type.

Size

Item	Setting Range	Description
Line Width	2-200 (*1)	Allows you to set the line width.
Arrow Size	5-200	Allows you to set the arrow size.
Edge Width	0-100 (*1)	Allows you to set the edge width.
Soft Edge	0-200	Allows you to set the softness of edge.

(*1) The sum of **Line Width** and both sides of **Edge Width** cannot exceed **200**.

Color

Item	Setting Range	Description
☐	-	Clicking ☐ after selecting the **Line** or **Edge** button opens the **Color** dialog box, which allows you to set the color of Line and Edge separately. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for Line and Edge after selecting the **Line** or **Edge** button.
Transparency	1-255	Allows you to set the transparency for Line and Edge.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-9. Polygon

To display the **Polygon Properties** dialog box, select the **Polygon** tool and click the **Properties** button in the main window. In this dialog box, the polygon settings such as the size and color can be made. After setting all properties, click **OK** to apply the settings.

Size

Item	Setting Range	Description
Soft Edge	0-200	Allows you to set the softness of edge.

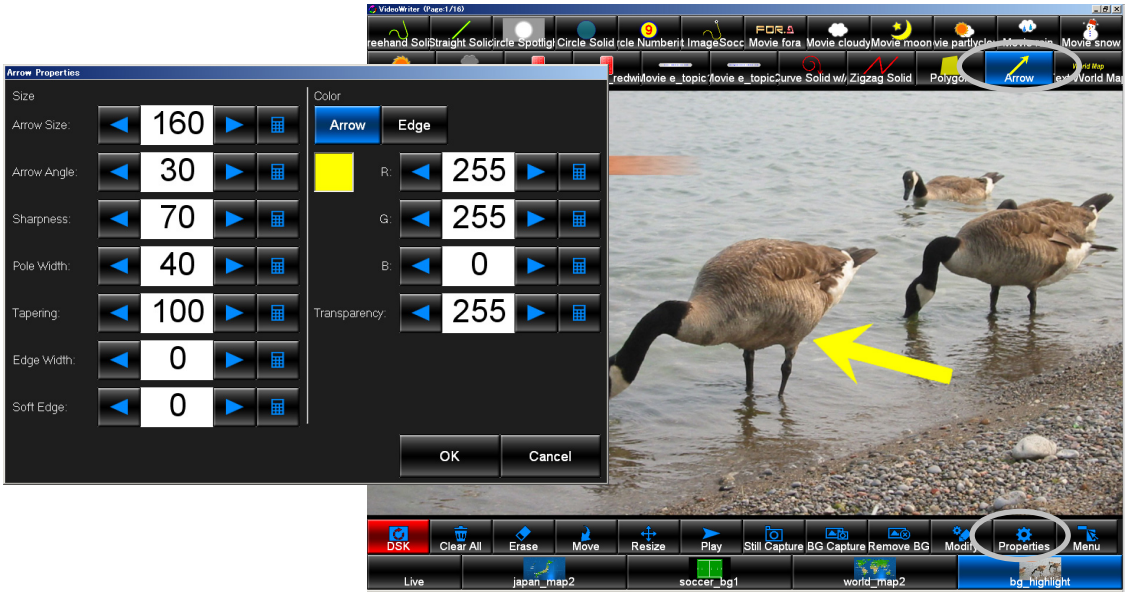
Color

Item	Setting Range	Description
☐	-	Clicking ☐ opens the **Color** dialog box, which allows you to set the color of polygons. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for polygons.
Transparency	1-255	Allows you to set the transparency of the polygons.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-10. Arrow

To display the **Arrow Properties** dialog box, select the **Arrow** tool and click the **Properties** button in the main window. In this dialog box, the arrow settings such as the style, line width, and color can be made. After setting all properties, click **OK** to apply the settings.



Size

Item	Setting Range	Description
Arrow Size	1-999	Allows you to set the arrow size.
Arrow Angle	5-60	Allows you to set the sharpness of the arrowhead.
Sharpness	0-200	Allows you to set the sharpness of the wings of the arrowhead.
Pole Width	5-999	Allows you to set the width of the line.
Tapering	0-200	Allows you to scale only one end of a line. Setting to **100** makes both ends to the same width. Setting to **99** or less narrows the opposite end of the arrowhead. Setting to **101** or more narrows the bottom of the arrowhead.
Edge Width	0-100 (*1)	Allows you to set the edge width.
Soft Edge	0-200	Allows you to set the softness of edge.

(*1) The sum of **Line Width** and both sides of **Edge Width** cannot exceed **200**.

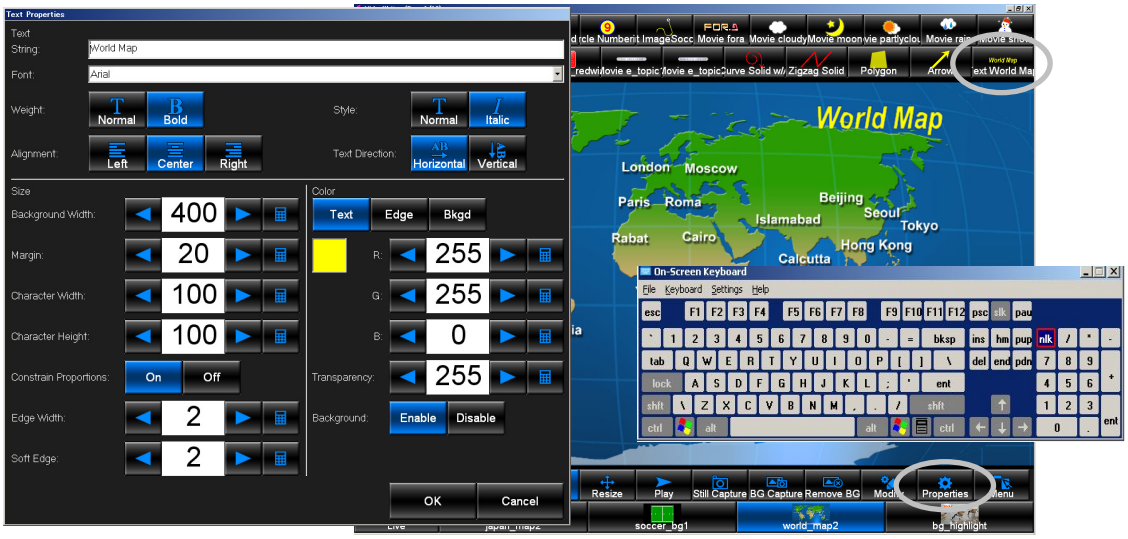
Color

Item	Setting Range	Description
☐	-	Clicking ☐ after selecting the **Arrow** or **Edge** button opens the **Color** dialog box, which allows you to set the color of Arrow and Edge separately. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for Arrow and Edge after selecting the **Arrow** or **Edge** button.
Transparency	1-255	Allows you to set the transparency for Arrow and Edge.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-1-11. Text

To display the **Text Properties** dialog box, select the **Text** tool and click the **Properties** button in the main window. In this dialog box, the texts can be entered and the text settings such as the font, font weight, and alignment can be made. After setting all properties, click **OK** to apply the settings.



Text

Item	Setting Range	Description
String	-	Allows you to enter the text.
Font	-	Allows you to select the font.
Weight	Normal, Bold	Allows you to select the font weight.
Style	Normal, Italic	Allows you to select the font style.
Alignment	Left, Center, Right	Allows you to align the text.
Text Direction	Horizontal, Vertical	Allows you to set the text direction.

Size

Item	Setting Range	Description
Background Width	0-999	Allows you to set the width of the text background.
Margin	0-999	Allows you to set the margin of the text background.
Character Width	14-999	Allows you to set the text width.
Character Height	14-999	Allows you to set the text height.
Constrain Proportions	On, Off	Changing the text width or height while **Constrain Proportions** is set to **On** constrains the proportions of the text.
Edge Width	0-100 (*1)	Allows you to set the edge width.
Soft Edge	0-200	Allows you to set the softness of edge.

(*1) The sum of **Line Width** and both sides of **Edge Width** cannot exceed **200**.

Color

Item	Setting Range	Description
☐	-	Clicking ☐ after selecting the **Text**, **Edge**, or **Bkgd** button opens the **Color** dialog box, which allows you to set the color of Text, Edge and Bkgd separately. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for Text, Edge or Bkgd after selecting the **Text**, **Edge**, or **Bkgd** button.
Transparency	1-255	Allows you to set the transparency for Text, Edge and Bkgd.
Background (*1)	Enable, Disable	Enables and disables Text Background.

(*1) If **Background** is set to **Enable**, the text is fit into the text background, regardless of the specified text width.

OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

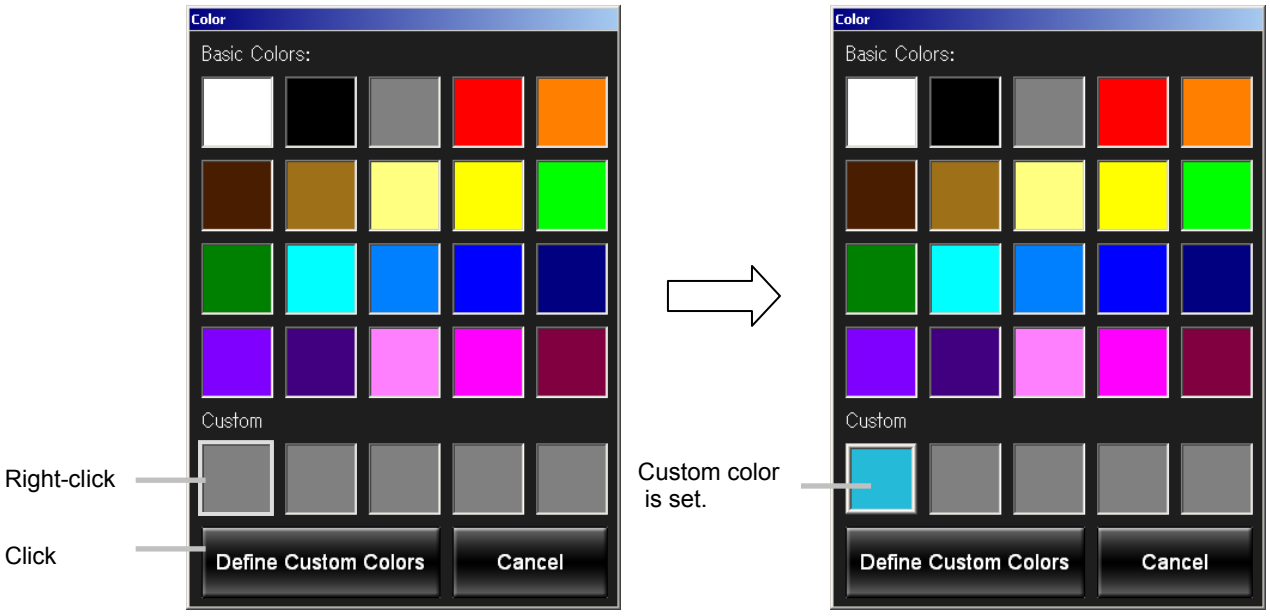
5-1-12. Color Setting

To Select a Color

To select a color for line, edge or other elements in **Line Properties**, **Circle Properties** and **Numbering Properties** dialogs, click the **Color** icon (☐) after selecting the **Line**, **Edge**, or other button to open the **Color** dialog box as shown below. Click on a desired cell to select a color.

To Set a Custom Color

Up to 5 custom colors can be set. To set a custom color, right-click on a cell, click the **Define Custom Colors** button and pick up a desired color for the cell.



5-2. Menu

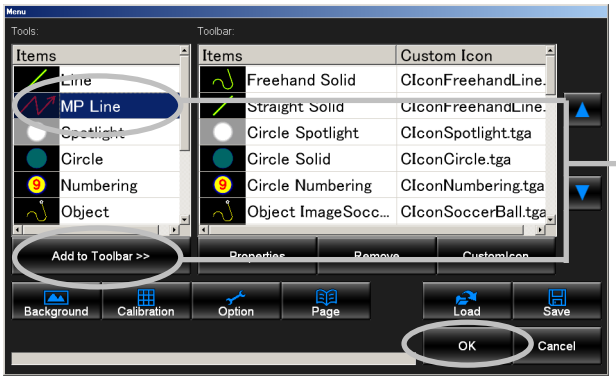
To display the **Menu** dialog box, click the **Menu** button in the main window. In this dialog box, you can add, edit, and remove the **Object** tools, and make the background settings, calibration settings, and custom icon settings for touch screen use. Loading and saving Video Writer files can also be done in this dialog box.

Menu Dialog Box

Add to Toolbar	Adds the draw tools selected in the **Tools** list to the main window.
Properties	Opens the **Properties** dialog box of the draw tool selected in the **Toolbar** list.
Remove	Removes the draw tools selected in the **Toolbar** list.
Custom Icon	Allows you to set an image for a custom icon.
Background	Allows you to specify an image to a background button.
Calibration	Allows you to make the calibration settings.
Option	Opens the **Option** dialog box. This dialog box allows you to make the video in and video out settings, size, undo, and dialog mode settings, and select whether to show or hide the custom icons and safety area markers.
Page	Opens the **Page** dialog box. This dialog box allows you to specify and clear page names.
Load	Loads the settings in a file saved using the **Save** button.
Save	Saves the current main window and current settings of draw tools and background buttons. The file extension is **.vwf**.
Up/down arrow button	Changes the display order of a draw tool selected in **Toolbar**.
OK	Applies the settings and closes the **Properties** dialog box.
Cancel	Closes the **Properties** dialog box without applying the settings.

5-2-1. Adding a Draw Tool

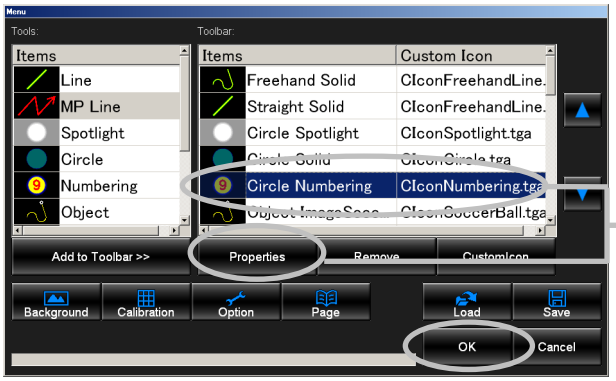
To add a draw tool to the main window, select a draw tool in the **Tools** list in the **Menu** dialog box and click **Add to Toolbar** button. The draw tool is added to the **Toolbar** list. Clicking **OK** in the **Menu** dialog box closes the dialog box and adds the draw tool to the main window.



Select a draw tool and click **Add to Toolbar**

5-2-2. Editing a Draw Tool

To edit the properties of a draw tool displayed in the main window, select a draw tool in the **Toolbar** list in the **Menu** dialog box and click the **Properties** button. The **Properties** dialog box is displayed. See section 4-2-12, “Properties” for details. Clicking **OK** in the **Menu** dialog box closes the dialog box and applies the settings.



Select a draw tool and click **Properties**

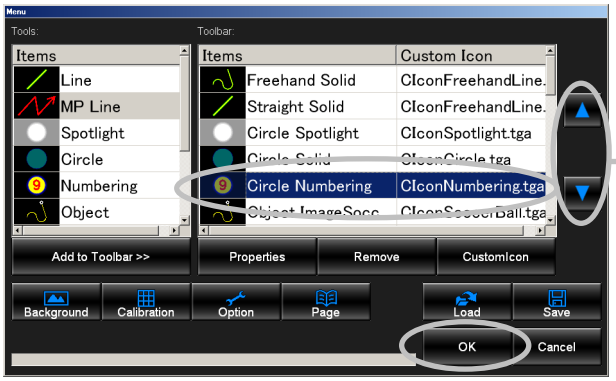
5-2-3. Removing a Draw Tool

To remove a draw tool from the main window, select a draw tool in the **Toolbar** list in the **Menu** dialog box and click the **Remove** button. The draw tool is removed from the **Toolbar** list. Clicking **OK** closes the dialog box and removes the draw tool from the main window.

Select a draw tool and click **Remove**

5-2-4. Changing Display Order of Draw Tools

To change the display order of draw tools in the main window, select a draw tool in **Toolbar** list in the **Menu** dialog box and click △ or ▽ on the right. Moving a draw tool up in the list moves the draw tool left in the main window, and moving a draw tool down in the list moves the draw tool right in the main window. Clicking **OK** in the **Menu** dialog box closes the dialog box and changes the display order of draw tools.



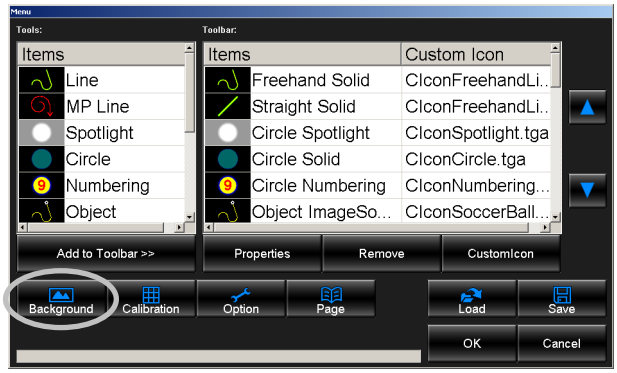
Select a draw tool and click △ or ▽

NOTE

You can also change the draw tools order in the main window. Click a desired tool and drag and drop it to the desired position while pressing Ctrl on the keyboard.

5-2-5. Adding a Background Button

To add a background button to the main window, click the **Background** button in the **Menu** dialog box. The **Open** dialog box is displayed. Specifying an image adds a button to the main window and the file name and thumbnail of the image are displayed on the button. The supported image file formats are **.jpg**, **.bmp**, **.tga**, and **.png**.



Capturing an image of **Live** by clicking **BG Capture** adds a background image directly to a background button.

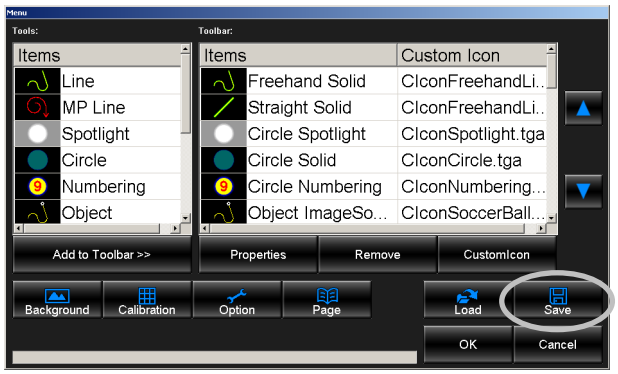
5-2-6. Removing a Background Button

To remove a background button from the main window, select a background button and click the **Remove BG** button. You can also remove a background button by right-clicking a background button and selecting **Remove** from the right-click menu.

Select a background button and click the **Remove BG** button

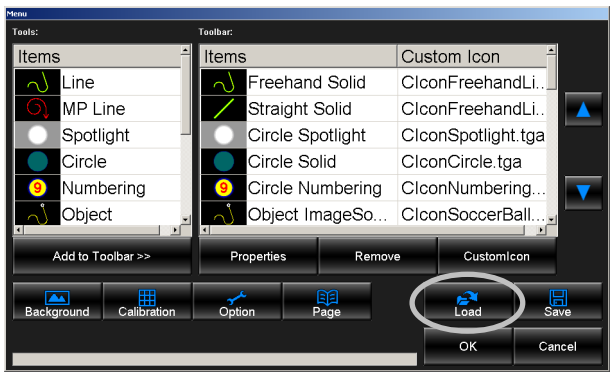
5-2-7. Saving a Video Writer File

To save the current main window and current settings of draw tools and background buttons, click the **Save** button in the **Menu** dialog box. The **Save As** dialog box is displayed. Specify the file name and directory and click **Save**. Clicking **OK** in the **Menu** dialog box closes the dialog box and saves the current settings to a Video Writer file. The file extension is **.vwf**.



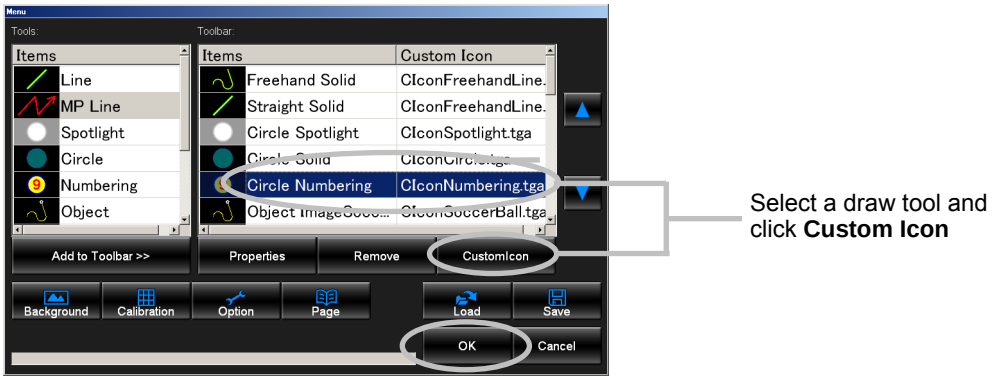
5-2-8. Loading a Video Writer File

To load the settings saved in a file using the **Save** button in the **Menu** dialog box, click the **Load** button in the **Menu** dialog box. The **Open** dialog box is displayed. Select a file you wish to load and click **Open**. The progress status can be checked with the progress bar at the lower left of the dialog box. Clicking **OK** in the **Menu** dialog box closes the dialog box and loads the settings saved in a Video Writer file.



5-2-9. Custom Icon Settings

For touch screen use, draw tools can be displayed as custom icons on the screen. In this dialog box, you can specify images for custom icons. To specify an image for a custom icon, select a draw tool in the **Toolbar** list in the **Menu** dialog box and click the **Custom Icon** button. The **Open** dialog box is displayed. Specifying an image using the **Open** dialog box adds the file name of the image to the **Toolbar** list. Clicking **OK** closes the dialog box and sets a custom icon image to a draw tool. The supported image file format is **.tga** and the supported size is **100 x 100 pixels**. For details on showing custom icons on the screen, see section 5-3-4-1, “Showing Custom Icons.”



In the **Menu** dialog box, the image settings for the custom icons cannot be made for the **Clear All**, **Erase**, **Move**, **Play**, **Modify**, **Properties**, and **Menu** buttons. To set custom icon images to these buttons, overwrite images **CIconClearAll.tga**, **CIconErase.tga**, **CIconMove.tga**, **CIconPlay.tga**, **CIconModify.tga**, **CIconProperties.tga**, and **CIconMenu.tga** saved in the same directory as **VideoWriter.exe**. The supported image file format is **.tga** and the supported size is **100 x 100 pixels**.

For details on setting an image to an **Object** tool, see section 5-1-6, “Object Properties – File.”

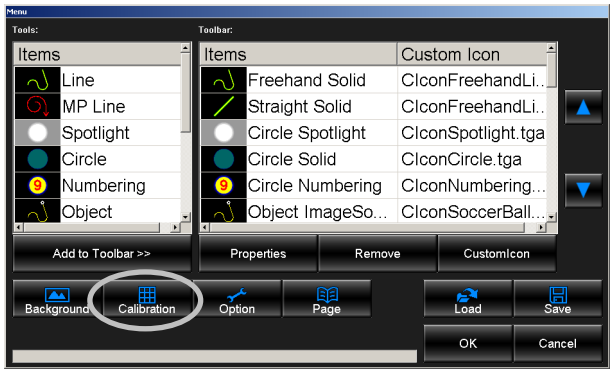
5-2-10. Calibration Settings

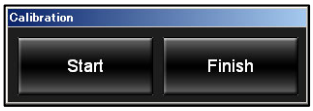
◆ **For the touch screen installed on the PC monitor**

Perform the calibration according to the specification of your touch screen. For details on calibration, see the manual of your touch screen.

◆ **For the touch screen installed on the video monitor**

Open the **Calibration** dialog box by clicking the **Calibration** button. After clicking **Start**, perform the calibration according to the specification of your touch screen. Once the calibration is completed, click **Finish**. For details on calibration, see the manual of your touch screen.

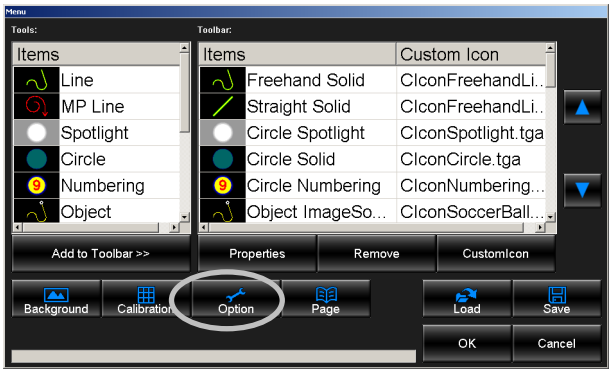




To use a touch screen installed on the video monitor, set to the full screen mode by double-clicking the right mouse button on the screen.

5-3. Option

To display the **Option** dialog box, click the **Menu** button in the main window to display the **Menu** dialog box and click the **Option** button in the **Menu** dialog box. In this dialog box, you can make the video in and video out settings, size, undo, and dialog mode settings, and select whether to show or hide the custom icons and safety area markers. After all settings are done, click **OK** in the **Option** dialog box and click **OK** in the **Menu** dialog box to apply the settings.



5-3-1. Video In / Video Out Settings

To display the Video settings, click **Video** in the **Option** dialog box. This screen allows you to make the video in and video out settings.

Item	Setting Range	Description	
Video Format	-	Allows you to select the video format.	
Genlock	BB, TRI	Allows you to select the genlock signal type.	
H Phase	*1	Allows you to adjust the horizontal phase of the genlock signal.	
V Phase	*1	Allows you to adjust the vertical phase of the genlock signal.	
Video IN	ON, OFF	Allows you to select whether or not to input a video signal.	
Video OUT1	Mix, VW Only	Allows you to select whether to output the keyed image on top of the Video OUT1 signal or the keyed image only.	
Video OUT2	Mix, VW Only	Allows you to select whether to output the keyed image on top of the Video OUT2 signal or the keyed image only.	
DSK Mode	Normal, Spotlight Fading, Background On	Allows you to specify the behavior when the **DSK** button is turned on and off.	
		Normal	Turns on and off the background still image and drawn objects.
		Spotlight Fading	The spotlight effect fades in and out.
		Background On	Turns on and off the drawn objects only. The background still image is displayed regardless of whether the **DSK** button is turned on or off.
Lock Source	Genlock, Video In	Genlock	Synchronizes with the Genlock IN signal. Please input a signal specified in **Genlock** (black burst or tri-level sync).
		Video IN	Synchronizes with the Video In signal.

(*1) The setting range differs according to the video format. See “Genlock Phase Setting Ranges” on the next page.

Lock/Unlock	Indicates whether or not the signal is synchronized with the signal specified in **Lock Source**.

OK	Applies the settings and closes the dialog box.
Cancel	Closes the dialog box without applying the settings.

GenIcok Phase Setting Ranges

H Phase

Video Format	Setting Range	Per Increment	Default
1080/59.94i	-1100 to +1099 (-14.83 µs to +14.81 µs)	1 (13.48 ns)	0
1080/50i	-1320 to +1319 (-17.80 µs to +17.78 µs)	1 (13.47 ns)	0
720/59.94p	-825 to +824 (-11.12 µs to +11.11 µs)	1 (13.48 ns)	0
720/50p	-990 to +989 (-13.34 µs to +13.32 µs)	1 (13.47 ns)	0
525/60	-858 to +857 (-31.78 µs to +31.74 µs)	1 (37.04 ns)	0
625/50	-864 to +863 (-32.00 µs to +31.96 µs)	1 (37.04 ns)	0

V Phase

Video Format	Setting Range	Per Increment	Default
1080/59.94i	-562 lines to +562 lines (-16.68 ms to +16.68 ms)	1 lines (29.66 µs)	0
1080/50i	-562 lines to +562 lines (-16.68 ms to +16.68 ms)	1 lines (35.59 µs)	0
720/59.94p	-375 lines to +374 lines (-8.34 ms to +8.32 ms)	1 lines (22.24 µs)	0
720/50p	-375 lines to +374 lines (-10.00 ms to +9.97 ms)	1 lines (26.67 µs)	0
525/60	-262 lines to +262 lines (-16.68 ms to +16.68 ms)	1 lines (63.56 µs)	0
625/50	-312 lines to +312 lines (-16.68 ms to +16.68 ms)	1 lines (64.0 µs)	0

5-3-2. Showing Safety Area Markers

To display the **Area Marker** settings, select **Area Marker** in the **Option** dialog box. This screen allows you to make the safety area marker settings.

Area Marker

Item	Setting Range	Description
Show/Hide	Show, Hide	Allows you to show or hide safety area markers.
Marker Selection	1-9 (*1)	Allows you to select a safety area marker you wish to change the settings.
New	-	Allows you to add area markers to **Marker Selection**.
Remove	-	Allows you to remove the area marker selected in **Marker Selection**.

(*1) Two area markers are added with the default setting.

Size

Item	Setting Range	Description
Marker Size	Side Cut	Allows you to turns on and off Side Cut. The button appears red when turned on.
	100%, 95%, 90%, 85%	The preset buttons for specifying the size of the area marker. The drawing area is defined as 100% when turned off, and the 4:3 area is defined as 100% when turned on. The **Side Cut** setting needs to be set before specifying **Marker Size**.
Left	0-1920	Allows you to set the left edge of the safety area marker.
Right	0-1920	Allows you to set the right edge of the safety area marker.
Top	0-1080	Allows you to set the top edge of the safety area marker.
Bottom	0-1080	Allows you to set the bottom edge of the safety area marker.
Line Width	1-100	Allows you to set the width of the border.

Color

Item	Setting Range	Description
	-	Clicking opens the **Color** dialog box, which allows you to set the color of safety area markers. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for safety area markers.
Transparency	1-255	Allows you to set the transparency for safety area markers.

OK	Applies the settings and closes the dialog box.
Cancel	Closes the dialog box without applying the settings.

5-3-3. Handle Settings

To display the **Handle** settings, select **Handle** in the **Option** dialog box. This screen allows you to make settings for handles displayed for Multi Pointed Line and Polygon.

Size

Item	Setting Range	Description
Handle Size (SD)	1-999	Allows you to set the handle size for the SD video format.
Handle Size (HD)	1-999	Allows you to set the handle size for the HD video format.

Color

Item	Setting Range	Description
☐	-	Clicking ☐ opens the **Color** dialog box, which allows you to set the color of handles. (See section 5-1-12, “Color Setting.”)
R, G, B	0-255	Allows you to set the R, G, B values separately for handles.
Transparency	1-255	Allows you to set the transparency for handles.

OK	Applies the settings and closes the dialog box.
Cancel	Closes the dialog box without applying the settings.

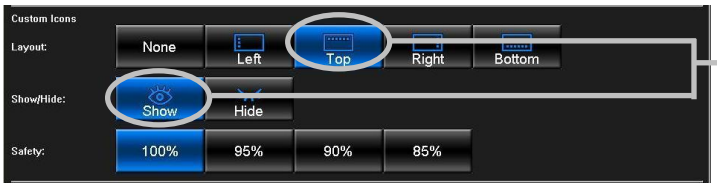
Changes are not applied to the handles that are already placed to the drawing area. Please make settings before creating objects.

5-3-4. Other Settings

To display the **Other** settings, select **Other** in the **Option** dialog box. This screen allows you to make settings such as the custom icon settings and undo setting.

5-3-4-1. Showing Custom Icons

To show custom icons on the screen, open the **Option** dialog box and set **Show/Hide** to **Show** and select the display position in **Layout**. The custom icons can be displayed at the left, right, top, or bottom of the screen.



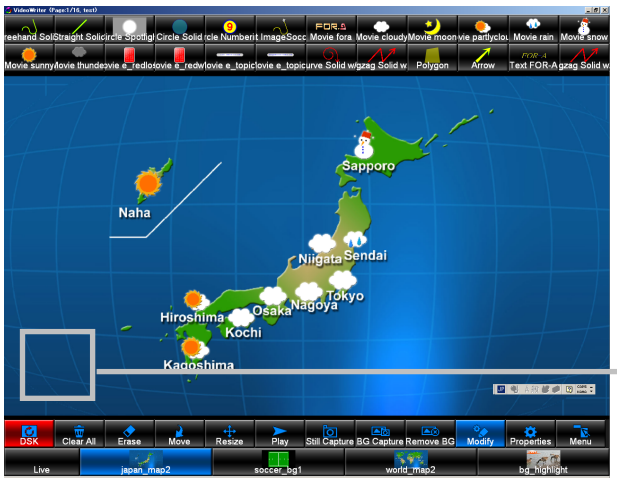
Selecting **Top** and **Show** displays the custom icons at the top of the screen

Custom icons

The custom icons can also be turned on and off by clicking any one of the four corners of the screen. If **Layout** is set to **None**, clicking a corner does not display the custom icons regardless of whether **Show/Hide** is set to **Show** or not.

5-3-4-2. Undo Setting

To assign the undo function to one of the four corners of the screen, select **Upper Left**, **Upper Right**, **Lower Left** or **Lower Right** in **Undo** in the **Option** dialog box. After the setting is done, click the specified corner of the screen to undo the last action. Although the standard keyboard shortcut (Ctrl + Z) is also available, assigning the undo function to the screen allows you to use it on the touch screen.

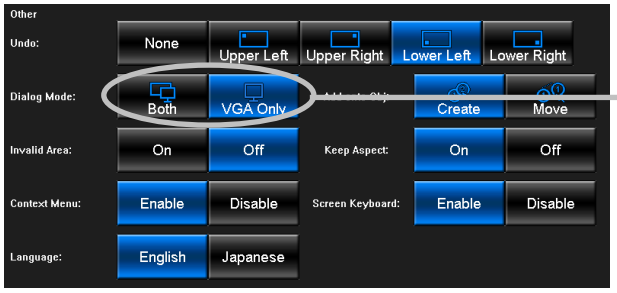


Click this area while **Undo** is set to **Upper Right** to undo the last action

5-3-4-3. Dialog Mode Setting

Whether to display dialog boxes such as the **Properties** dialog boxes and **Menu** dialog box on both the SDI monitor and VGA monitor or the VGA monitor only can be selected.

To display dialog boxes on both the SDI monitor and VGA monitor, set **Dialog Mode** to **Both** in the **Option** dialog box. To display dialog boxes on the VGA monitor only, set to **VGA Only**.



Select **Both** or **VGA Only**

5-3-4-4. Mode for When Clicking an Object with a Draw Tool

The behavior when clicking an object on the screen while a draw tool is selected can be specified.

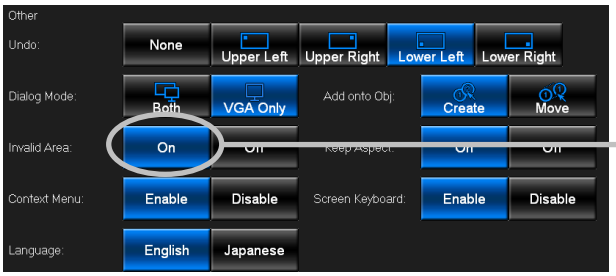
To create a new object when an object on the screen is clicked with a draw tool, set **Add onto Obj** to **Create** in the **Option** dialog box. To move the object on the screen when it is clicked with a draw tool, set **Add onto Obj** to **Move**.

Select **Create** or **Move**

5-3-4-5. Invalid Area Setting

The invalid area, which you cannot place objects can be set. This is used to avoid placing unnecessary images by accidentally clicking the screen. The invalid area is 60 pixels from the edge of the screen.

To turn on the invalid area, set **Invalid Area** to **On** in the **Option** dialog box.



Set to **On** to turn on the invalid area.

5-3-4-6. Keep Aspect

Keep Aspect allows you to set the aspect ratio setting for the VGA output. Setting **Keep Aspect** to **ON** maintains the aspect ratio regardless of the window size. For HD, the aspect ratio is constrained to 4:3. For SD, the aspect ratio is constrained to 4:3 if **Squeeze** is set to **Off**, and it is constrained to 16:9 if **Squeeze** is set to **ON**.

Set to **On** to maintain the aspect ratio.

5-3-4-7. Context Menu

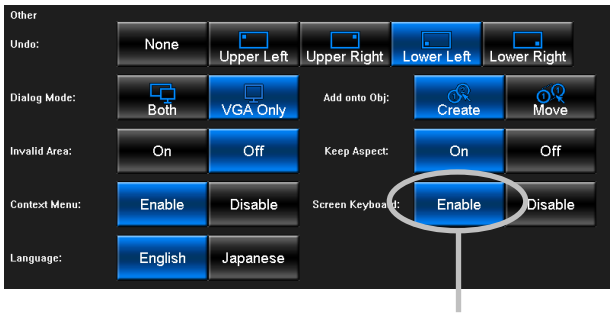
Context Menu allows you to enable and disable right-click menus (context menus) shown when the drawing area is right-clicked.

Set to **Enable** to show the right-click menu when the drawing area is right-clicked.

5-3-4-8. Screen Keyboard

Allows you to enable and disable the on-screen keyboard for touch screen use, for entering texts for the file names or the Text tool.

On-Screen Keyboard



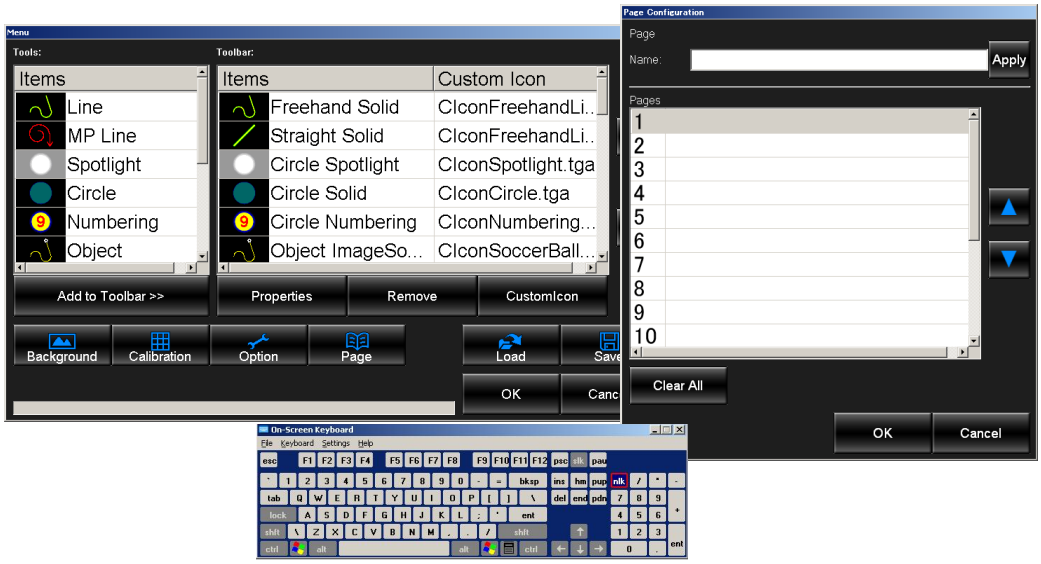
Set to **Enable** to show the on-screen keyboard. If set to **Disable**, the on-screen keyboard does not appear for entering texts for the file names and the Text tool.

5-3-4-9. Language Setting

The **Language** setting is only available in Japanese version.

5-3-5. Page

To display the **Page Configuration** dialog box, click the **Menu** button in the main window to display the **Menu** dialog box and click the **Page** button in the **Menu** dialog box. In this dialog box, you can specify a page name for each page. Press the Page Up and Page Down keys on the keyboard to move between pages. Up to 16 pages can be set. After making all settings, click **OK** in the **Page Configuration** dialog box, and then click **OK** again in the **Menu** dialog box to apply the settings.



Page

Item	Description
Name	Allows you to enter the page name after selecting a page in **Pages**.
Apply	Allows you to apply the name entered in **Name**.

Pages

Item	Description	
Pages	Allows you to select a page by clicking.	
Up and down arrow buttons	Allows you to change the page number of the page selected in **Pages**.	
	Up arrow button △	Allows you to switch the selected page with the previous page.
	Down arrow button ▽	Allows you to switch the selected page with the next page.
Clear All	Clears page names and drawn objects of all pages.	

OK	Applies the settings and closes the dialog box.
Cancel	Closes the dialog box without applying the settings.

6. Resetting to Defaults

The settings of FVW-500HS are saved as below.

File	Settings	How to Save and Load Settings
VideoWriter.ini	Properties settings of draw tools Background button settings Option settings Safety area marker settings Video format setting External reference input setting	Click **OK** in the **Properties** dialog boxes. The settings are kept until the next time the application is started.
VideoWriter file (vwf file)	Current image on the screen Properties settings of draw tools Background button settings	Save and load the .vwf files (See 5-2-7 and 5-2-8).

To reset the above settings to defaults, follow the steps below.

1. In Video Writer, click the ☒ button in the upper right corner of the main window to close the application.

2. To execute a batch file, double-click **Default.bat** located in **C:\VideoWriter**

3. The command prompt is launched automatically. Once the command prompt finishes its process, the settings are reset.

4. The settings are reset to defaults the next time you run Video Writer.

7. File Conversion Software (TGA/PNG to AVI)

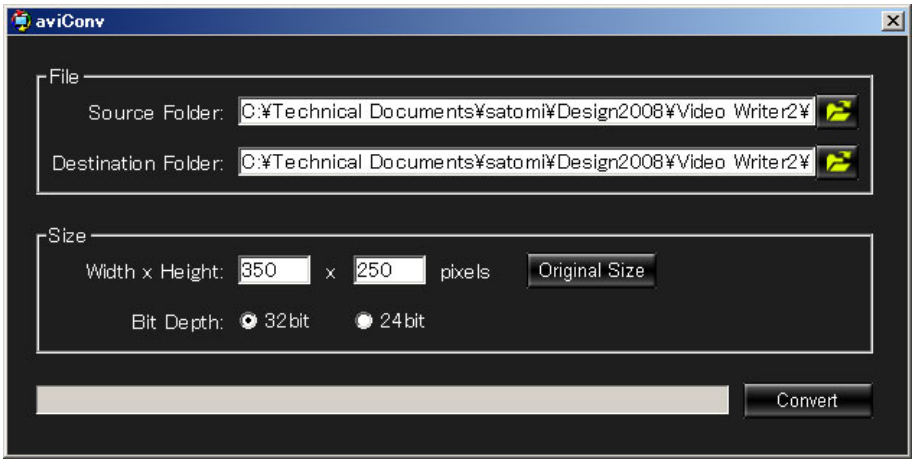
aviConv allows you to convert a tga or png sequence to an uncompressed 32bit avi file.

- Allows you to convert to an uncompressed 32bit avi file
- Resizing function
- Sequences in 32bit tga and png format are supported

NOTE
Although a sequence in 24bit format can also be specified, the alpha channel will be white when **Bit Depth** is set to **32bit**.

7-1. File Conversion

1. Double-click **aviConv** icon on the desktop to start **aviConv**



2. In **Source Folder**, specify the folder where the original files exist. Enter the folder path directly in the text box, or click the icon to open the **Browse for Folder** dialog box to specify the folder.

3. In **Destination Folder**, specify the file name and destination folder to save the avi file. Enter the folder path directly in the text box, or click the icon to open the **Save As** dialog box to specify the folder.

4. In **Width x Height**, specify the resolution of the avi file. Click the **Original Size** button to keep the resolution to the same size as the original files.

5. In **Bit Depth**, select the bit depth from **32bit** (with an alpha channel) or **24bit** (without an alpha channel).

6. Click the **Convert** button to start conversion. The progress status can be checked with the progress bar to the left of the **Convert** button.

7. Click the ☒ button in the upper right corner of the window to exit **aviConv**.

7-2. Messages

After the conversion, one of the following messages is displayed. If an error message is displayed, check the file format and conversion settings.

Your files have been converted successfully.	Displayed after the conversion is successfully completed.
Conversion failed!	The file in the destination folder may be locked, or the setting in the **Source Folder** or **Destination Folder** may not have been properly made.
An error occurred while attempting to obtain the video size.	The setting in the **Source Folder** may not have been properly made.

8. Specifications and Dimensions

8-1. Unit Specifications

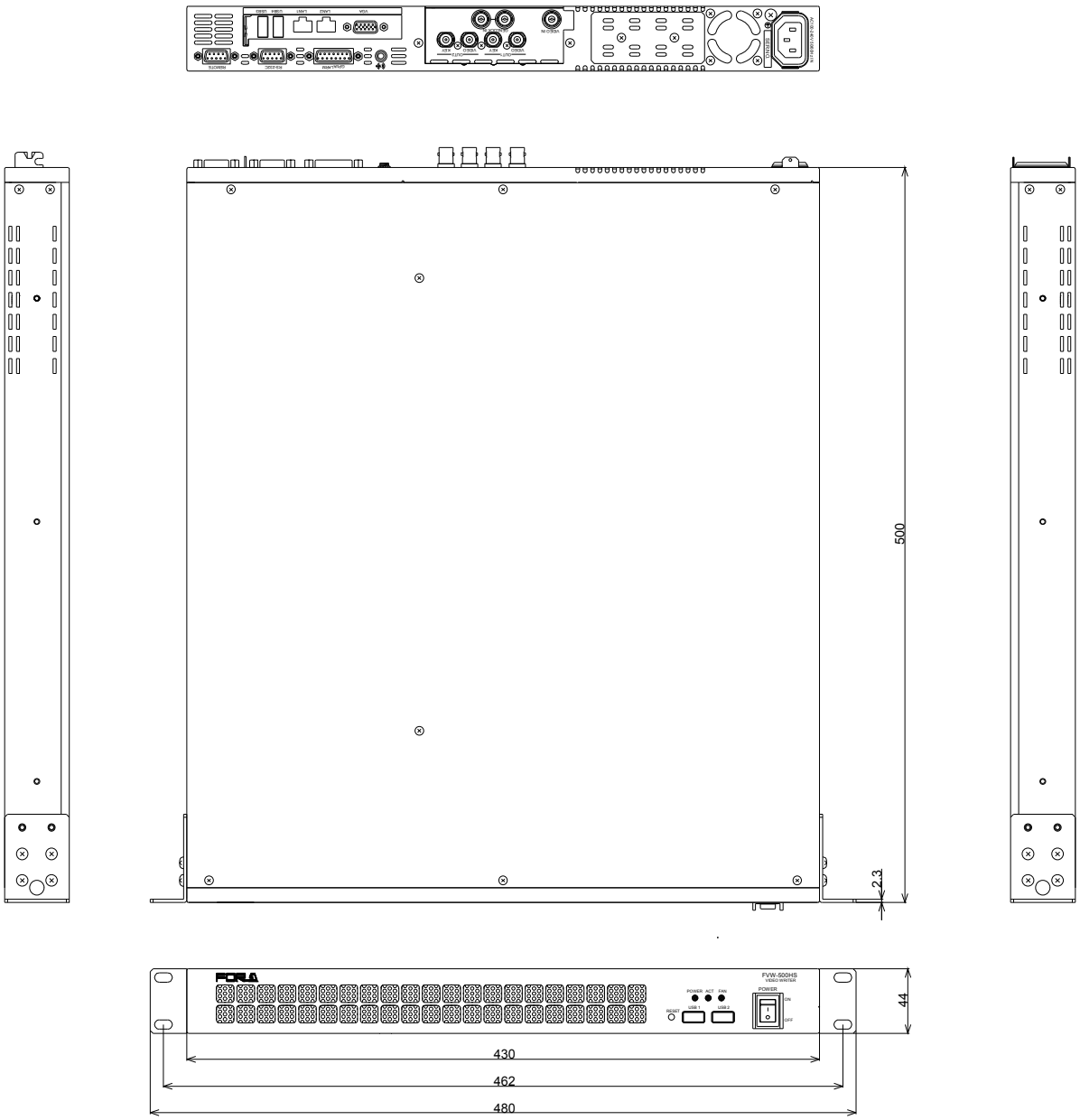
TV Standards	HD SDI	1080/59.94i, 1080/50i, 720/59.94p, 720/50p
	SD SDI	525/60, 625/50
Signal Processing	4:2:2:4 digital component	
Quantizing	10-bit	
Video Inputs	HD: 1.485/1.001Gbps or SD: 270Mbps 75Ω, BNC, 1 input	
Video Outputs	HD: 1.485/1.001Gbps or SD: 270Mbps 75Ω, BNC, 4 outputs (2 outputs for key fill signal, and other 2 for key source signal. VIDEO IN input is bypassed through OUT1 VIDEO output when the unit is powered off.)	
Genlock Input	BB: NTSC 0.429V(p-p) / PAL 0.45V(p-p) or Tri-level Sync: 0.6V(p-p) 75Ω (termination required) or loopthrough, BNC, 1 input	
Input Lock	±0.5H relative to genlock signal phase	
I/O Delay	1 frame when the phase of input video is same as that of genlock.	
Interface		
RS232C	9-pin D-sub, male, 1 port	
VGA	Output resolution SXGA (1280x1024),15-pin mini D-sub (female) x 1	
USB	2.0 (High Speed), Series-A type connector, 4 ports (2 ports in the front panel and 2 ports in the rear panel)	
LAN1	Not used	
LAN2	Not used	
REMOTE	Not used	
RS232C	9-pin D-sub (male) x1	
GPI/ALARM	15-pin D-sub (female) x1 ALARM: power and fan alarm (Relay make contact output) GPI: 1-input/1-output (Input: contact closure, Ouput: open collector)	
Audio out	3.5 mm stereo mini jack x 1	
Temperature	0°C - 40°C	
Humidity	20% - 80% (no condensation)	
Power	AC100V - 240V ±10%, 50/60Hz	
Consumption	110VA (113W) at 100VAC 110VA (96W) at 200VAC	
Dimensions	430 (W) x 44 (H) x 500 (D) mm, EIA 1RU	
Weight	9 kg	

Consumables (if used 24 hours a day at normal temperature)

Cooling fans:	Replace every 3 years.
Power:	Replace every 5 years
Battery:	Replace every 5 years.

8-2. External Dimensions

(All dimensions in mm.)

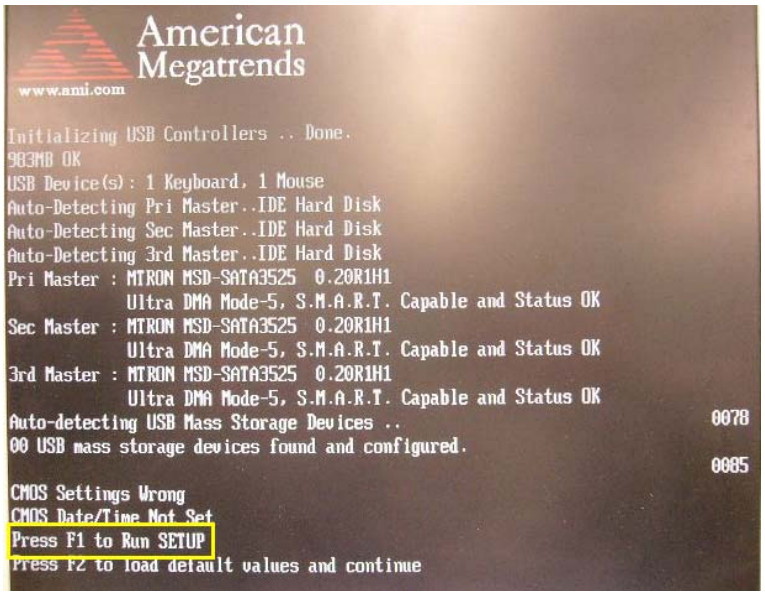


Appendix. How to Reset BIOS

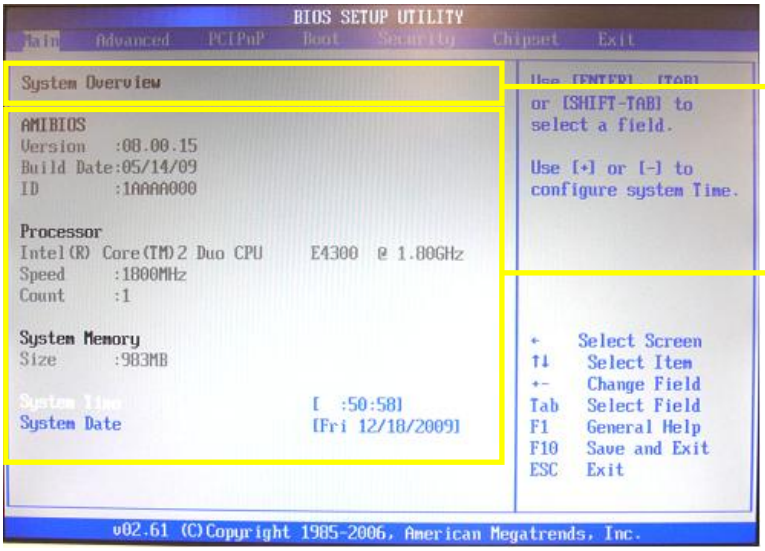
This appendix explains how to reset the BIOS. Please follow the procedure below in case you need to reset the BIOS due to the battery failure or such reason.

1. Opening BIOS Setup Menu

1. Connect a PC monitor, a keyboard, and a mouse to the FVW-500HS and turn on the unit.
2. The screen appears as below. Press the **F1** key.


American Megatrends
www.ami.com
Initializing USB Controllers .. Done.
983MB OK
USB Device(s): 1 Keyboard, 1 Mouse
Auto-Detecting Pri Master..IDE Hard Disk
Auto-Detecting Sec Master..IDE Hard Disk
Auto-Detecting 3rd Master..IDE Hard Disk
Pri Master : MTRON MSD-SATA3525 0.20R1H1
Ultra DMA Mode-5, S.M.A.R.T. Capable and Status OK
Sec Master : MTRON MSD-SATA3525 0.20R1H1
Ultra DMA Mode-5, S.M.A.R.T. Capable and Status OK
3rd Master : MTRON MSD-SATA3525 0.20R1H1
Ultra DMA Mode-5, S.M.A.R.T. Capable and Status OK
Auto-detecting USB Mass Storage Devices ..
0078
00 USB mass storage devices found and configured.
0085
CMOS Settings Wrong
CMOS Date/Time Not Set
Press F1 to Run SETUP
Press F2 to load default values and continue

3. The BIOS SETUP UTILITY is opened.



Menu item

Submenu

On the BIOS SETUP UTILITY screen, set the values for the menus as shown below.
The detailed procedure is given in the following section.

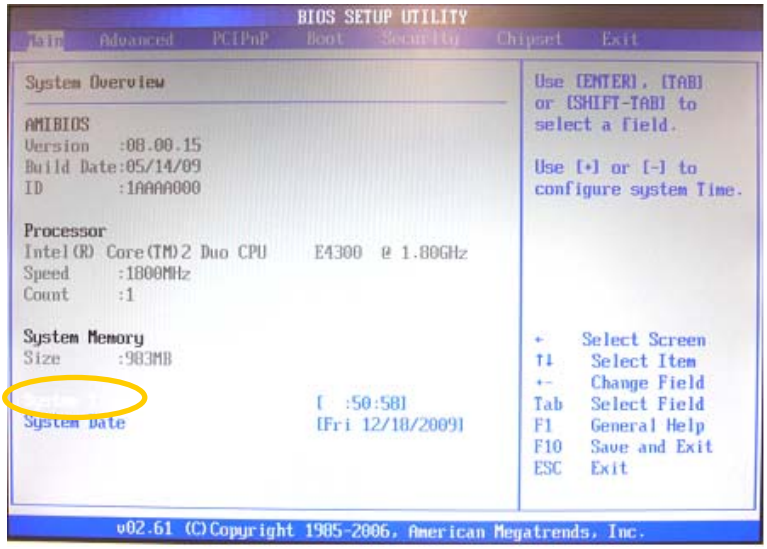
Item	Menu bar	Menu item	Submenu	Value
(1)	Main	System Time	-	Current time
		System Date	-	Current date
(2)	Advanced	Floppy Configuration	Floppy A	Disabled
			Floppy B	Disabled
(3)	Boot	Boot Settings Configuration	Wait For 'F1'If Error	Disabled
		Boot Device Priority	1st Boot Device	Hard Disk
(4)	Chipset	South Bridge Chipset Configuration	Restore on AC Power Loss	Power On

2. Setting Procedure

(1) Set the current date and time in the Main menu provided on the menu bar.
(a) On the menu bar, select **Main** using the right and left arrow keys.

◆ **Main menu screen**

(b) Set the system time.
Select **System Time** using the right and left arrow keys.



Enter the current time using the numeric keys. Press **Enter** to confirm the change and move the cursor to the next item on hour, minute, and second.

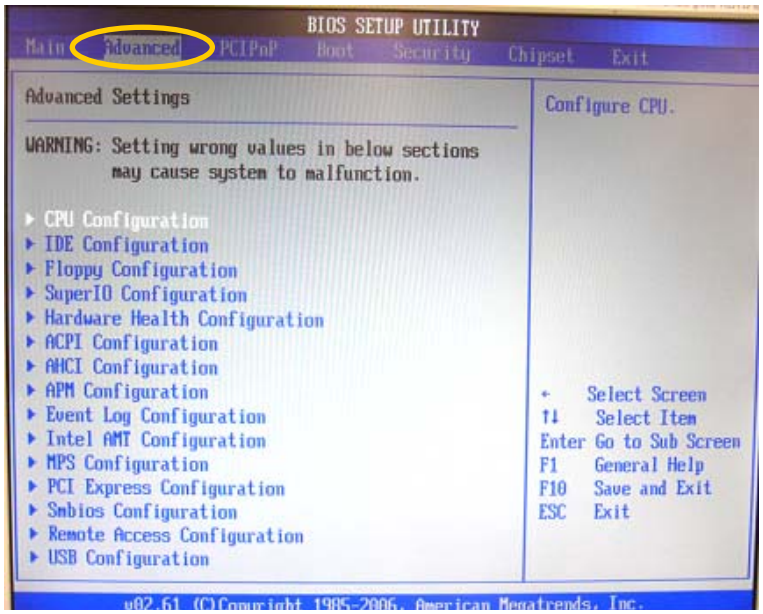
(c) Set the current date.
Select **System Date** using the right and left arrow keys.

Enter the current time using the numeric keys. Press **Enter** to confirm the change and move the cursor to the next item on month, day, and year.

(2) Set the Floppy Configuration parameters in the **Advanced** menu on the menu bar.

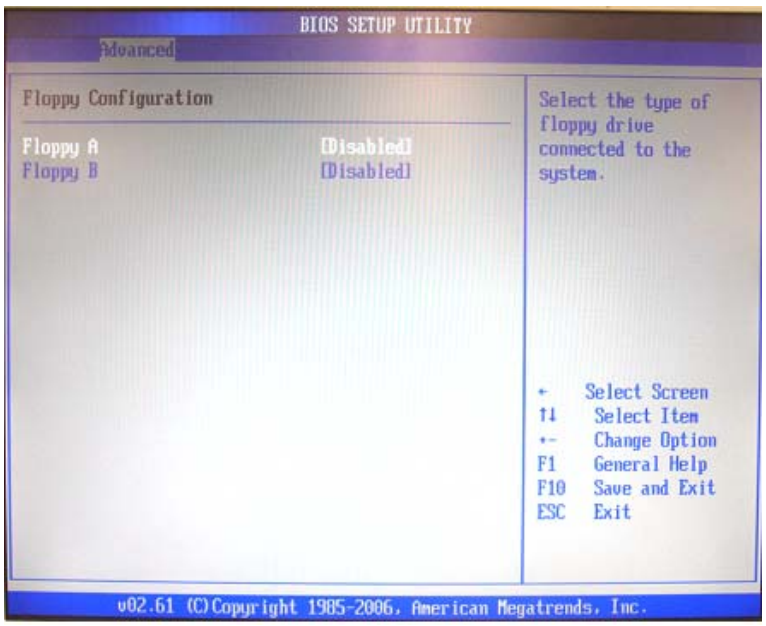
◆ **Advanced menu screen**

(a) On the menu bar, select **Advanced** using the right and left arrow keys.

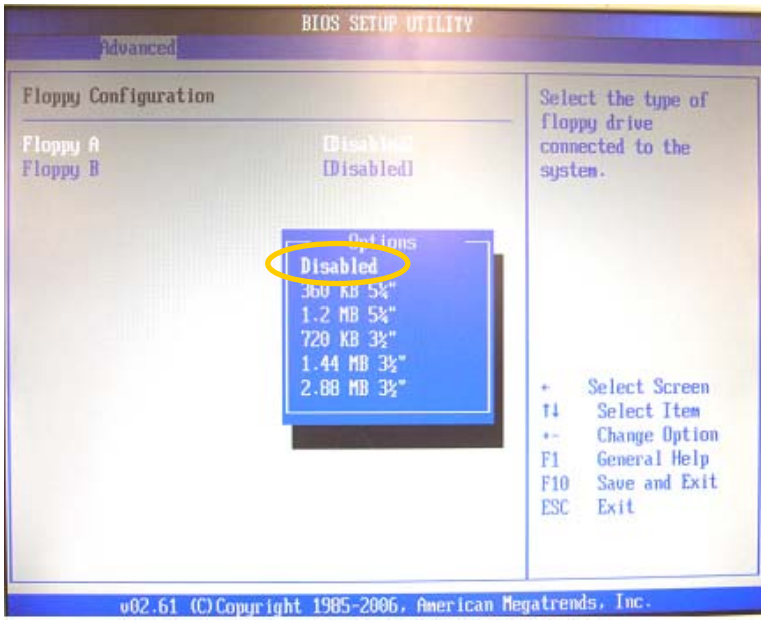


(b) Select **Floppy Configuration** using the up and down arrow keys, and press **Enter**. The **Floppy Configuration** menu will be displayed.

Floppy Configuration menu



(c) Disable **Floppy A** and **Floppy B**.
Select **Floppy A** or **Floppy B** using the up and down arrow keys, and press **Enter**. The **Options** window as shown below appears. Select **Disabled** and press **Enter**.

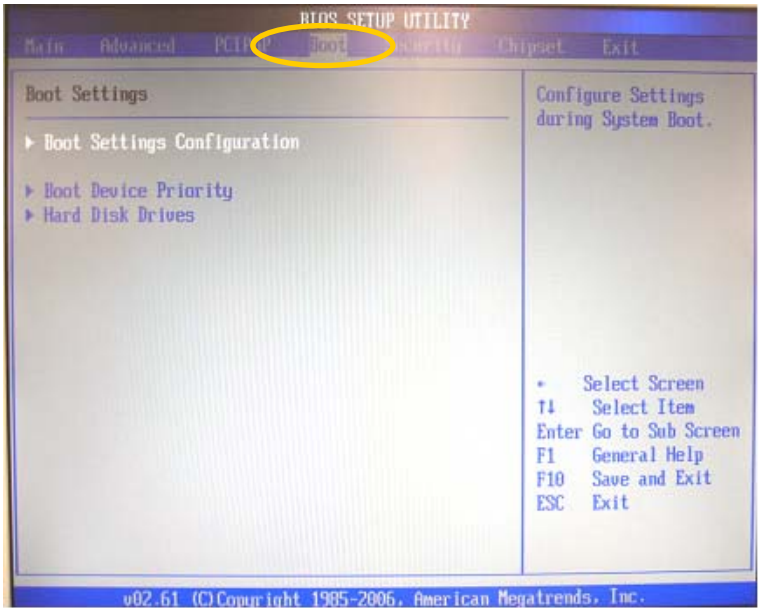


* After you finish the setting, verify that the value in the square brackets opposite the item is set to **Disabled**. The **Esc** key on the keyboard allows you to return to the previous screen.

(3) Set the **Boot Settings Configuration** parameters and **Boot Device Priority** in the **Boot** menu on the menu bar.

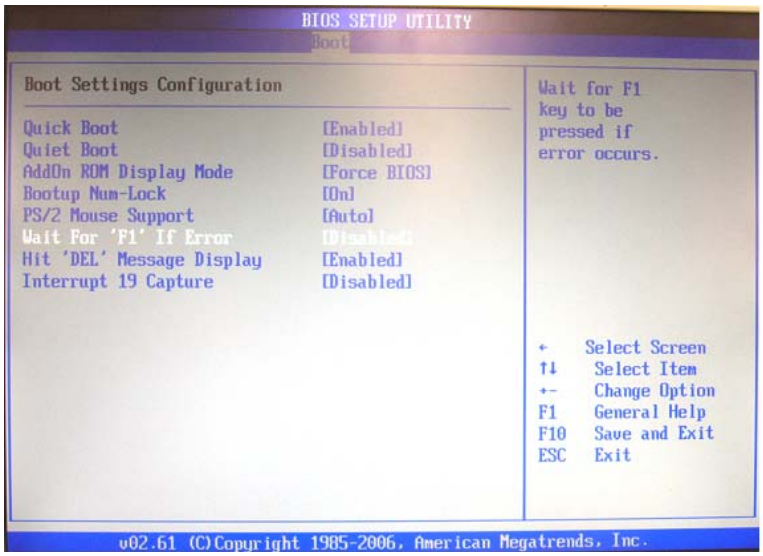
◆ **Boot Menu Screen**

(a) Select **Boot** on the menu bar using the right and left arrow keys.



(b) Set the **Boot Settings Configuration** parameters.
Select **Boot Settings Configuration** using the up and down arrow keys, and press **Enter**.
The **Boot Settings Configuration** menu will be displayed.

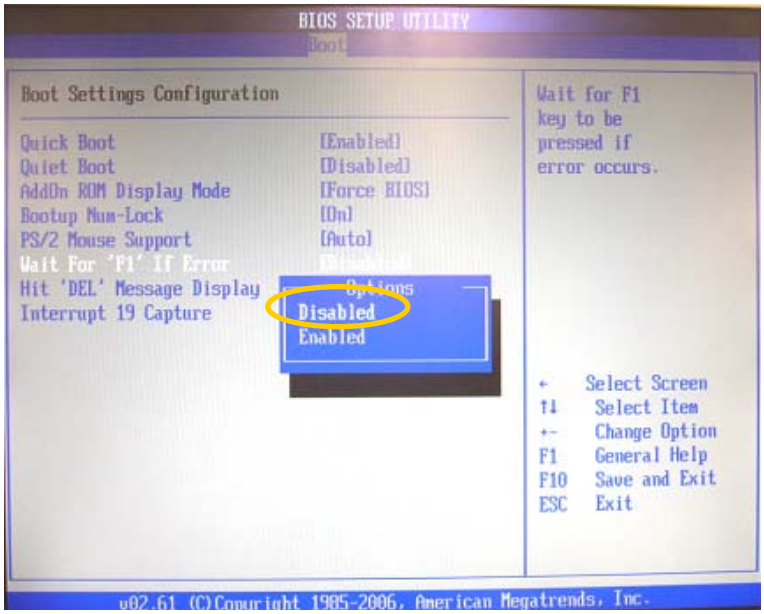
Boot Settings Configuration menu



(c) Set **Wait For 'F1' If Error** to **Disabled**.
Select **Wait For 'F1' If Error** using the up and down arrow keys.

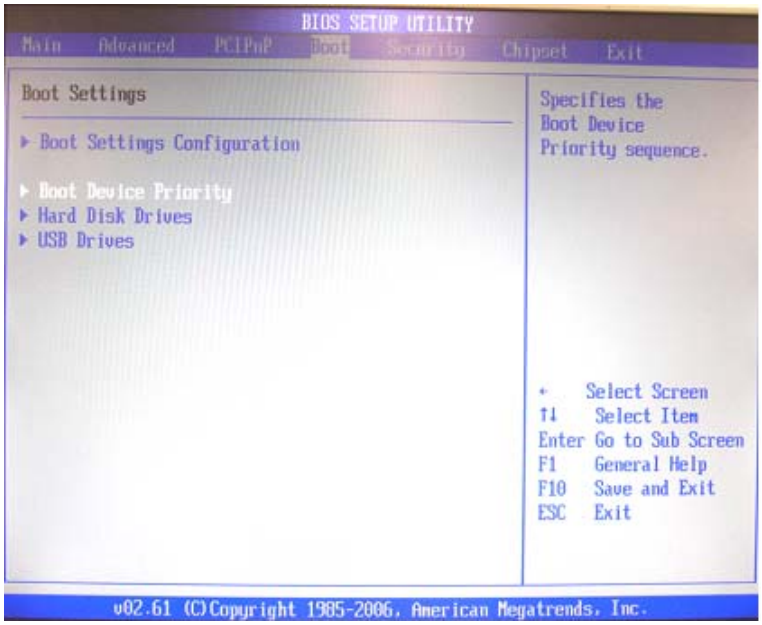
Bootup Num-Lock [On]
PS/2 Mouse Support [Auto]
Wait For 'F1' If Error
Hit 'DEL' Message Display [Enabled]
Interrupt 19 Capture [Disabled]

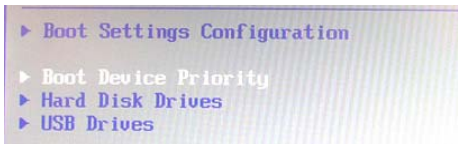
Press **Enter**. The **Options** window as shown below appears. Select **Disabled**, and press **Enter**.



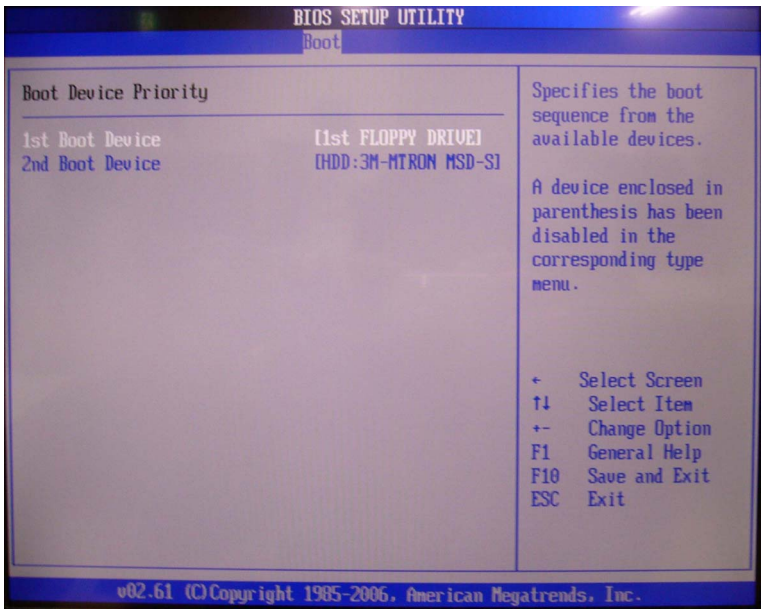
* After you finish the setting, verify that the value in the square brackets opposite the item is set to **Disabled**. The **Esc** key on the keyboard allows you to return to the previous screen.

(d) Set the **Boot Device Priority**.
Select **Boot Device Priority** using the up and down arrow keys, and press **Enter**. The **Boot Device Priority** menu will be displayed.

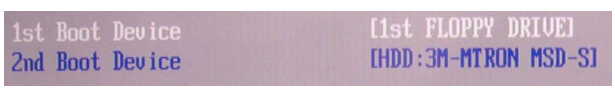




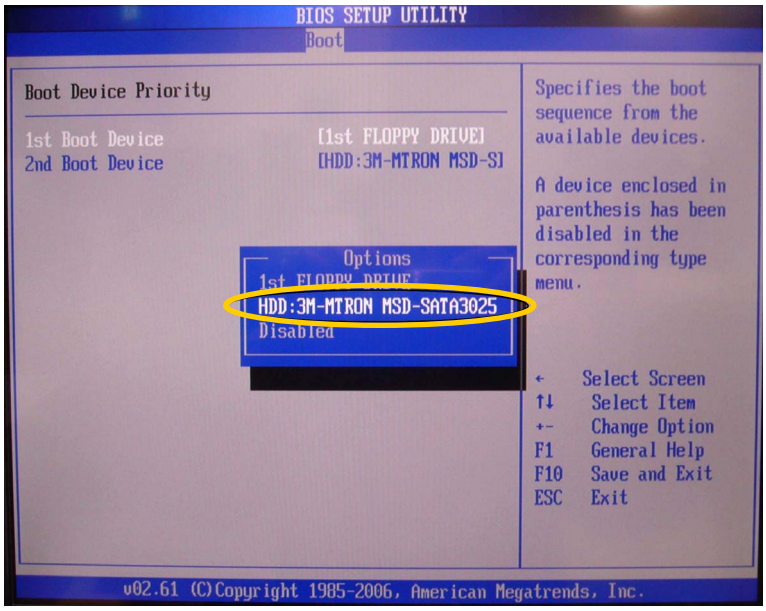
Boot Device Priority menu


BIOS SETUP UTILITY
Boot
Boot Device Priority
1st Boot Device [1st FLOPPY DRIVE]
2nd Boot Device [HDD:3M-MTRON MSD-S]
Specifies the boot sequence from the available devices.
A device enclosed in parenthesis has been disabled in the corresponding type menu.
Select Screen
Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
v02.61 (C)Copyright 1985-2006, American Megatrends, Inc.

(e) Set **1st Boot Device** to **HDD: xxxxxxx**.
Select **1st Boot Device** using the up and down arrow keys.



Press **Enter**. The **Options** window as shown below appears. Select **HDD: xxxxxxx**, and press **Enter**.

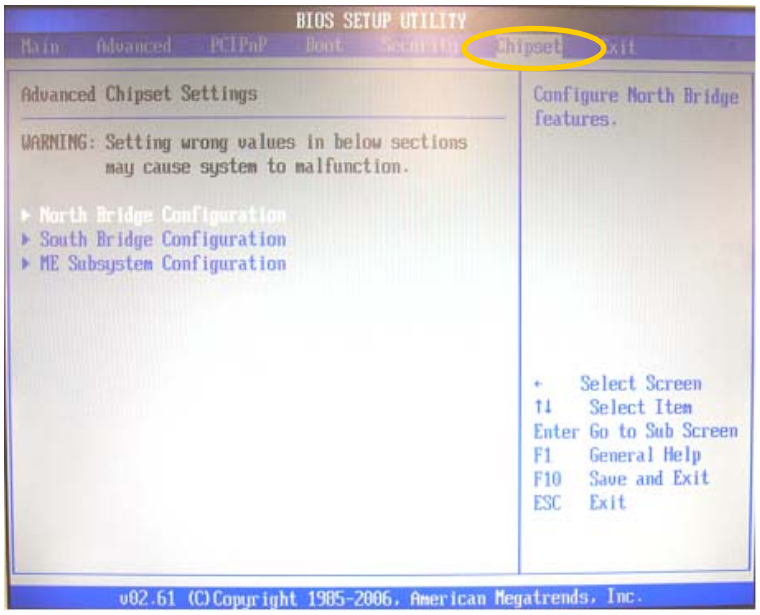


* After you finish the setting, verify that the value in the square brackets opposite the item is set to **HDD: xxxxxxx**. The **Esc** key on the keyboard allows you to return to the previous screen.

(4) Set the **South Bridge Chipset Configuration** parameters in the **Chipset** menu on the menu bar.

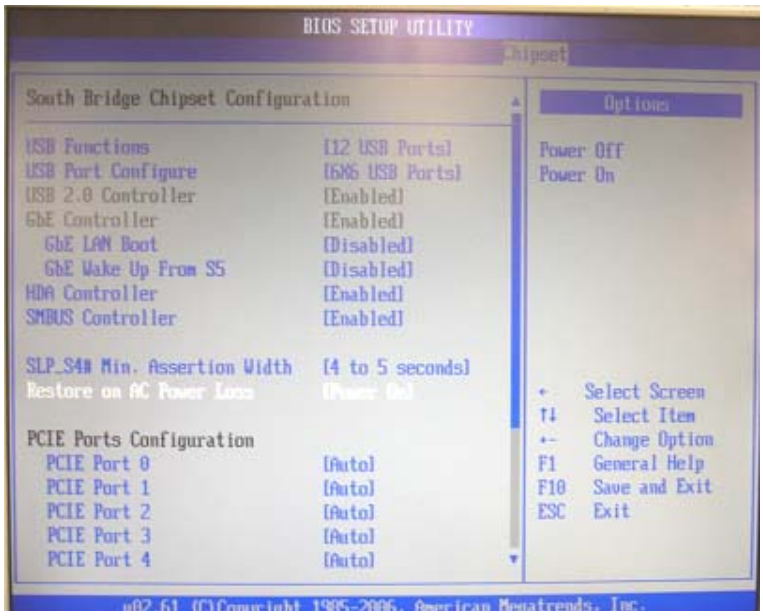
◆ **Chipset menu screen**

(a) Select **Chipset** menu on the menu bar using the right and left arrow keys.

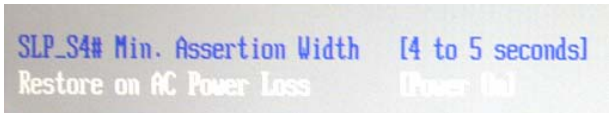

BIOS SETUP UTILITY
Main Advanced PCIPnP Boot Security Chipset Exit
Advanced Chipset Settings
WARNING: Setting wrong values in below sections may cause system to malfunction.
North Bridge Configuration
South Bridge Configuration
ME Subsystem Configuration
Configure North Bridge features.
← Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
v02.61 (C)Copyright 1985-2006, American Megatrends, Inc.

(b) Select **South Bridge Configuration** using the up and down arrow keys, and press **Enter**. The **South Bridge Chipset Configuration** menu will be displayed.

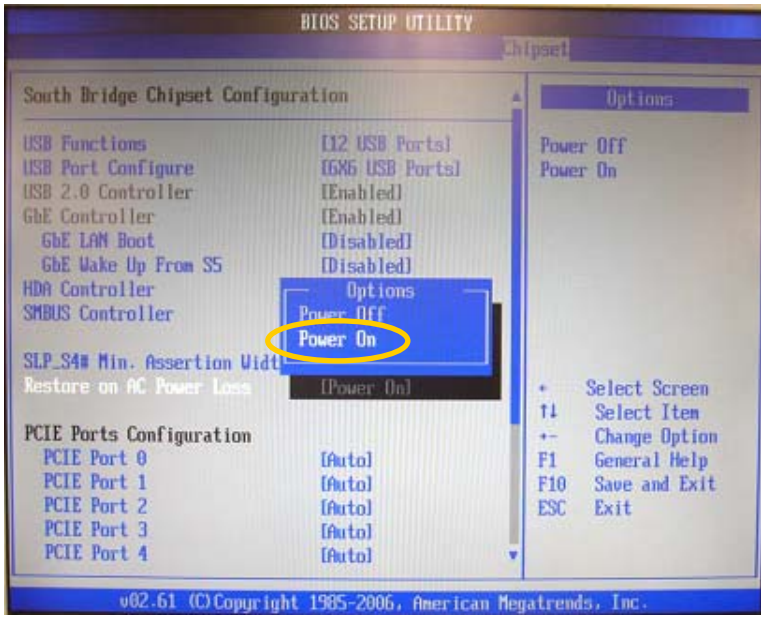
South Bridge Chipset Configuration menu



(c) Set **Restore on AC Power Loss** to **Power On**.
Select Restore on AC Power Loss using the up and down arrow keys.



Press **Enter**. The **Options** window as shown below appears. Select **Power On**, and press **Enter**.



* After you finish the setting, verify that the value in the square brackets opposite the item is set to **Power On**. The **Esc** key on the keyboard allows you to return to the previous screen.

(d) Once you have completed the settings, press the **F10** key. The confirmation message appears asking if you want to save the settings and exit the BIOS setup menus. Click **Yes**. The **BIOS SETUP UTILITY** is closed and the system restarts from the BIOS boot screen.

The procedure is complete.

Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

08/27/2011 Printed in Japan

FOR-A COMPANY LIMITED

Head Office : 3-8-1 Ebisu, Shibuya-ku, Tokyo 150-0013, Japan
Overseas Division Phone: +81 (0)3-3446-3936, Fax: +81 (0)3-3446-1470
Japan Branch Offices : Osaka/Okinawa/Fukuoka/Hiroshima/Nagoya/Sendai/Sapporo
R&D/Production : Sakura Center/Sapporo Center

FOR-A America Corporate Office

11155 Knott Ave., Suite G&H, Cypress, CA 90630, USA
Phone: +1 714-894-3311 Fax: +1 714-894-5399

FOR-A America East Coast Office

Two Executive Drive, Suite 670, Fort Lee Executive Park, Fort Lee NJ 07024, USA
Phone: +1 (201) 944-1120 Fax : +1 (201) 944-1132

FOR-A America Distribution & Service Center

2400 N.E. Waldo Road, Gainesville, FL 32609, USA
Phone: +1 352-371-1505 Fax: +1 352-378-5320

FOR-A Corporation of Canada

346A Queen Street West, Toronto, Ontario M5V 2A2, Canada
Phone: +1 416-977-0343 Fax: +1 416-977-0657

FOR-A Latin America & the Caribbean

5200 Blue lagoon Drive,
Suite 760, Miami, FL 33126, USA
Phone: +1-305-931-1700 Fax: +1-305-264-7890

FOR-A UK Limited

UNIT C71, Barwell Business Park, Leatherhead Road, Chessington Surrey, KT9 2NY, UK
Phone: +44 (0)20-8391-7979 Fax: +44 (0)20-8391-7978

FOR-A Italia S.r.l.

Viale Europa 50 20093, Cologno Monzese (MI), Milan, Italy
Phone: +39 02-254-3635/6 Fax: +39 02-254-0477

FOR-A Corporation of Korea

801 Dangsan Bld., 53-1 Dangsan-Dong, Youngdeungpo-Gu, Seoul 150-800, Korea
Phone: +82 (0)2-2637-0761 Fax: +82 (0)2-2637-0760

FOR-A China Limited

708B Huateng Building, No. 302, 3 District, Jinsong, Chaoyang, Beijing 100021, China
Phone: +86 (0)10-8721-6023 Fax: +86 (0)10-8721-6033

*The contents of this manual are subject to change without notice.